DAY ONE PROJECT

Maintaining Military Medical Readiness Today Saves Lives Tomorrow

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Summary

Advances in military medicine are hard won during war but easily lost during peace. Though mortality rates of U.S. troops on the battlefield have improved significantly since World War II, the battlefield mortality rate at the beginning of a war often exceeds the battlefield mortality rate at the end of the previous war. Researchers attribute this phenomenon to erosion, during interwar years, of military readiness to provide combat healthcare. The Perelman School of Medicine at the University of Pennsylvania estimates that better maintaining military medical readiness could have prevented more than 100,000 combat deaths over the past 80 years.[1]

Loss of life following survivable injury is not unique to the military. Tens of thousands of U.S. civilians succumb to potentially preventable trauma-related deaths every year.[2] Since military medical advances are frequently adopted by the civilian healthcare sector,[3–5] the White House, working with key federal agencies, should expand military-civilian partnerships (MCPs) in trauma care to achieve a national goal of eliminating preventable deaths. Such an initiative will save lives on the battlefield and the home front — with the ultimate goal of reaching zero preventable deaths.[6]

Challenge and Opportunity

An unprecedented percentage of service members wounded on the battlefields of Iraq and Afghanistan over the past 20 years made it home to their loved ones. This success is due to the professionalism of our uniformed healthcare providers and their innovations in responding to combat trauma — innovations that include moving blood products closer to the battlefield to lessen the effects of immediate and severe blood loss, deploying resuscitative surgical-system teams close to troops in enemy contact, splitting operations of forward surgical teams in two to increase coverage, and distributing tourniquets to every deployed service member.[7]

During times of peace, though, our military medical community loses its readiness to save life and limb on the battlefield. Statistics from the "War on Terror" illustrate the tragic consequences that arise when military medical readiness erodes during interwar years. Between October 2001 and June 2011, 4,016 U.S. combat troops died before they reached a military hospital. Of those, 976 (almost 25%) died from what are

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[1] Cannon, J.W.; et al. (2020). Comprehensive analysis of combat casualty outcomes in US service members from the beginning of World War II to the end of Operation Enduring Freedom. *Journal of Trauma and Acute Care Surgery*, 89(2S): S8–S15.
[2] Ibid.
[3] National Academies of Sciences, Engineering, and Medicine. (2016). *A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths After Injury*. Washington, DC: National Academies Press. Page 339.
[4] Rasmussen, T.E.; Kellermann, A.L. (2016). Wartime lessons—shaping a national trauma action plan. *New England Journal of Medicine*, 375(17): 1612–1615.
[5] Elster, E.A.; Butler, F.K.; Rasmussen, T.E. (2013) Implications of combat casualty care for mass casualty events. *JAMA*, 310(5): 475–476.
[6] National Academies of Sciences, Engineering, and Medicine. (2016). A National Trauma Care System. Pages 339–377.
[7] Military Compensation and Retirement Modernization Commission. (2015). *Final Report of the Military Compensation and Retirement Modernization Commission*. January. Page 59.

assessed to be battlefield-survivable injuries.[8] A survey of general surgeons who provided deployed casualty care between 2002 and 2012 found that the majority of respondents felt underprepared to meet the demands of battlefield injuries.[9]

A key reason for interwar deterioration of military medical readiness is that during times of peace, Department of Defense (DoD) priorities shift from treating combat trauma to ensuring the general wellness of active-duty service members, their families, and other beneficiaries at Military Treatment Facilities (MTF) administered by the Defense Health Agency. While beneficiary care is an essential personnel benefit that should not and must not be diminished, it is also essential to recognize that the MHS does not provide sufficient training opportunities to maintain the proficiency of military medical personnel in treating battlefield trauma.[10] An independent study conducted by the Institute for Defense Analysis found alarming misalignment between the top ten diagnoses on the battlefield in Iraq and the top 10 diagnoses in MTFs: while the former encompassed a variety of combat-related traumas, the latter were generally less serious (consistent with what one would expect for a predominantly young and healthy patient population). This divergence suggests that the primary missions of uniformed healthcare providers — (1) treating complex combat-related traumas, and (2) serving the needs of a family health practice — are not mutually supportive.[11]

Recognizing that the MTFs were not providing the necessary trauma-related training to maintain battlefield medical readiness, Congress has directed DoD to establish partnerships with civilian medical academic institutions and major metropolitan hospitals that host level I trauma centers. These partnerships are intended to ensure that the military's wartime medical specialists[12] are continually exposed to the volume and types of complex trauma necessary to ensure they are trained and prepared to rapidly deploy to an area of armed conflict.

These MCPs currently include the U.S. Army Trauma Training Center at Miami Dade Ryder Trauma Center in Florida, California's U.S. Navy Trauma Training Center at USC/LA County, and the three U.S. Air Force Centers for Sustainment of Trauma and Readiness Skills located at the University of Maryland, the University of Cincinnati, and St. Louis University.[13] While individually admirable, these MCPs constitute a patchwork that does not substitute for a coordinated national approach to curbing loss of military and civilian life from potentially survivable injuries. Because of this concern in Congress, section 757 of the FY 2021 NDAA directs DoD to conduct a systematic review of its MCPs to enhance the readiness of the military medical force to provide combat

[8] National Academies of Sciences, Engineering, and Medicine. (2016). *A National Trauma Care System*. Page 51.
[9] Note that respondents included general surgeons and associated surgical subspecialties who deployed in general surgery billets. Source: Tyler, J.A.; et al. (2012). Combat Readiness for the Modern Military Surgeon: Data from a Decade of Combat Operations. *Journal of Trauma and Acute Care Surgery*, 73(2): S64–S70.
[10] Whitley, J.E.; et al. (2016). *Essential Medical Capabilities and Medical Readiness*. Institute for Defense Analyses. IDA Paper NS P-5305, July. Page 63.
[11] Ibid. Page 65.
[12] The FY 17 NDAA defines wartime medical specialties as emergency medical care and prehospital care, trauma surgery, critical care, anesthesiology, emergency medicine, and other specialties deemed appropriate by the Secretary of Defense.
[13] American College of Surgeons. (2020). The Blue Book: Military-Civilian Partnerships for Trauma Training, Sustainment, and Readiness. Page 6.

casualty care. The White House, working with the Departments of Defense (DoD), Health and Human Services (HHS), Homeland Security (DHS), and Veterans Affairs (VA), should build on results of the review and move quickly to expand military-civilian partnerships (MCPs) in the context of a national goal of eliminating preventable deaths.

Plan of Action

In 2016, the National Academies of Science, Engineering, and Medicine published a report[14] explaining the need to establish a coordinated military/civilian national trauma-care system and presenting an action plan for achieving this goal. Below, we outline an updated, four-part version of the National Academies action plan. These actions will collectively shore up our nation's military medical readiness, with benefits for American troops and American civilians alike.

Part 1

The White House should reaffirm its commitment to maintaining the quality of healthcare received by DoD beneficiaries, while also establishing national goals of (1) achieving zero preventable deaths from trauma-related injury and (2) minimizing trauma-related disability. It should be clear that these goals align both with the DoD's mission of ensuring that uniformed medical personnel are prepared to provide battlefield healthcare and with HHS' objective of strengthening the civilian healthcare workforce to meet American needs. The White House should encourage partnerships between military and civilian trauma-care units to help achieve this goal.

Part 2

Within six months, the White House should establish a "Zero Preventable Deaths" task force overseen by the White House Office of Science and Technology Policy and cochaired by the HHS Assistant Secretary for Preparedness and Response and the Joint Chiefs of Staff Surgeon. The task force should be responsible for:

- Building on the MCP efforts of the DoD by convening federal agencies (including DHS, the VA, and the Joint Chiefs of Staff) and other governmental, academic, and private-sector stakeholders to identify intermediate objectives, policies, and actions needed to achieve zero preventable deaths.

- Assigning accountability and responsibility for
    - Ensuring development of best practices, data standards, and research across the continuum of trauma care,
    - Evolving a data-driven research agenda to support trauma care,
    - Overcoming any policy or legislative complications resulting from the establishment of the military/civilian national trauma-care system, and
    - Executing a strategic communications plan for the effort.

[14] National Academies of Sciences, Engineering, and Medicine. (2016). *A National Trauma Care System*.

- Securing appropriate congressional appropriations and private sector funding to support the goals of eliminating preventable deaths and minimizing preventable disabilities.

Part 3

The combatant commanders establish the medical requirements for their battle plans and the secretaries of the military departments are responsible for training and equipping their branch's healthcare professionals to meet these demands. It's the role of the Secretary of Defense to hold them accountable. The defense secretary does this by:

- Designating the Joint Chiefs of Staff Surgeon to be his representative to the task force.
- Ensuring that military department's train and equip their forces to the combat-casualty-care personnel and system-support infrastructure requirements of combatant commanders.
- Confirming that the Undersecretary of Defense for Personnel and Readiness and the Assistant Secretary of Defense for Health Affairs have established medical-readiness policy and oversight consistent with the goals of the task force.
- Institutionalizing the military departments support for the military/civilian national trauma-care system.

Part 4

The Secretary of Health and Human Services should position the Assistant Secretary for Preparedness and Response of HHS to lead civilian efforts of the task force. This role includes:

- Coordinating with governmental (federal, state, and local), academic, and private-sector partners to establish a national approach for improving trauma care preparedness for mass-casualty incidents.
- Integrating military/civilian trauma-care partnerships into the American College of Surgeon's Verification, Review, and Consultation Program.
- Developing and implementing guidelines for establishing an appropriate number, level, and location of MCPs within a region based on the needs of the population and the training requirements of the military departments.
- Taking the leadership role for trauma-care research.
- Developing measures of effectiveness and measures of performance for the military/civilian trauma care system.

Frequently Asked Questions

1. Why is now the time to establish a national goal of zero deaths to survivable injuries?

We have just ended our country's longest period of war and our military doctors are at their best. If we do not act now, much of what they have learned will be lost and some number of troops will die needlessly on future battlefields.

2. Would expanding MCPs improve the quality of healthcare provided to civilians?

Yes. During every armed conflict, the uniformed medical community makes incredible advances in preventing the deaths of our troops on the battlefield. MCPs ensure that civilian healthcare providers benefit from those advances.

3. Does expanding MCPs break faith with servicemembers and other DoD beneficiaries by weakening the quality of their healthcare?

No. The only priority more important than providing DoD beneficiaries access to the highest-quality healthcare available while the force is in garrison is saving the lives of our soldiers, sailors, airmen, marines, and guardians while the force is on the battlefield. And as discussed above, improving the readiness of military healthcare providers improves quality of care for all Americans.

4. Do DoD beneficiaries have access to quality healthcare at the MTFs?

Yes. But we should ask ourselves if the quality of some of the care delivered in the MTFs could be better. The medical community recognizes that high caseload volumes increase provider experience, which equals better outcomes for patients. But with a few exceptions (usually associated with newborn care, pregnancy, and maternal health), high volumes of work are not characteristic of the MTFs. For example, the consulting group CNA found that the best outcomes for knee replacements are observed in facilities that do 200 or more procedures a year. Only 13% of all knee replacements conducted in MTFs were conducted at MTFs that did 200 or more a year.[15]

[15] Brevig, H.N.; et al. (2015). *The Quality-Volume Relationship: Comparing Civilian and MHS Practice.* CNA.

About the Authors

John E. Whitley served as Assistant Secretary of the Army for Financial Management and Comptroller and as the Acting Secretary of the Army. He has written on military healthcare reform from various positions of authority, including as a researcher at the Institute for Defense Analysis and as a medical-reform expert on the Presidential Military Compensation and Retirement Modernization Commission (MCRMC).

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