

The Ongoing Evolution (Revolution) of TEMS

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Globally, military tactical medical practices and associated kits have been moving into the nonmilitary Tactical Emergency Medical Support (TEMS) communities at a relatively quicker pace than in previous conflicts. The previous long-term conflicts (Vietnam, the Cold War) saw a relatively slower transfer of medically relevant areas to nonmilitary medical practice.

One possible factor is the use of digital media as a means to transfer areas of medical relevance to the nonmilitary medical community. Unlike the conflicts since Vietnam, the current conflict has also seen the use of Reserve and National Guard medical personnel alongside their active counterparts; this factor has also made for a more efficacious transfer of tactical medical practices to the nonmilitary tactical medical community. Many Reserve and Guard medical personnel step back into similar practices when they return home postdeployment.

However, differences in organization, training, protocols, scope of practice issues, statutes, and regulations between military practitioners and their nonmilitary counterparts act as brakes to a more efficient transfer and use of

relevant tactical medical practices. Notions of military tactical medical practice, both real and perceived, are both synergizing and impeding the transfer of relevant medical practice to the TEMS community in the United States.

Particularly problematic in the nonmilitary tactical medical community is the degree to which organization, training, protocols, scope of practice issues, statutes, and regulations differ between municipalities, counties, states, and agencies. These differences greatly impede the interoperability common to most military organizations.

Throughout the United States, the drive to be prepared for active shooter and other crisis-related situations has significantly increased the demand for TEMS training (and associated funding). However, the lack of training standardization, bureaucratic issues, varying local practices at the differing levels of governance, and funding issues have further impeded the more efficient transfer and acceptance of relevant and needed tactical medical practices. The following chart gives a brief overview of general characteristics of military and nonmilitary tactical medical governance and practices.

General Characteristics of Military and Nonmilitary (TEMS) Tactical Medicine

Military TEMS
Centralized protocols and procedures relatively equal between units—Decentralized execution
Centralized training through service schools with known instructor qualifications
Multidecade history of joint training and operations
Mission-driven clinical practices among varying levels of licensure
Nonmilitary (TEMS) Tactical Medicine
Frequently varying protocols and procedures between states, counties, and municipalities, and agencies
Market-driven training with varying standards and outcomes
Historically operated as separate agencies (law, fire, EMS)
Statutory- and regulatory-driven clinical constraints varying with licensure and locale
Allocated federal and state (National Guard) funding sources
Significant variations in the ability to fund TEMS training and operations; frequently federal

The command and control structure of the military affords the opportunity for greater standardization. Even across national boundaries there is standardization to ensure the best outcomes. In combined operations, STANAGS (Standard NATO Agreements) allow for the exchange of information and operational methods amongst the NATO allies. The “nine line for casualty evacuation” is one such example. I have used it in more than one crisis situation.

The foundational principles of our republic and its methods of governance can present challenges to getting everyone practicing in like manner. It is the aforementioned issues that increase the chances of problems with interoperability.

However, a number of organizations have arisen to assist in bringing order and structure to TEMS practices and to ensure greater interoperability nationally. Predating those organizations is the *Committee for Tactical Combat Casualty Care* (CoTCCC), which is under the auspices of the Institute for Surgical Research. This groundbreaking organization continues to translate worldwide battlefield experience into evidence-based tactical medical practices for the global military and nonmilitary medical communities. CoTCCC provides foundational input into the following two other TEMS organizations:

C-TECC: Committee for Tactical Emergency Casualty Care, first convened in 2011, continues to progress in redefining TCCC methodologies for nonmilitary entities as well as seeking to add to areas of nonmilitary clinical TEMS practice.

NTEMSC: National TEMS Counsel (formerly National TEMS Initiative and Council) was convened in 2011 to bring national TEMS leaders together to standardize the field of tactical medicine. An article published last month in the *JSOM*¹ describes some of the ongoing work of the NTEMSC. Seventeen domains and accompanying competencies were derived to describe the minimum training standards in those areas. Future endeavors include standardizing the areas of TEMS competency for first responders (law, fire, EMS) and first care providers (civilians).

Per the aforementioned *JSOM* article, “The [NTEMSC] project’s panel members are working to develop a national organization whose mission will be to (1) develop and maintain the competencies, (2) maintain and expand the involvement of all TEMS leaders and stakeholder representatives, and (3) serve to encourage the expansion of the TEMS literature base. *As the base grows, the curriculum recommendations will evolve and improve including the need for developing a research agenda to identify tactical medicine knowledge gaps and support research endeavors*” (italics added).

Future endeavors of the NTEMSC committee are integration of research, data collection and analysis, and implementation in education and training. Critical research areas identified by the Research Committee and conducted by appropriate academic centers agencies can then be further translated into identifiable education and training standards by the Education and Training Committee and can be disseminated in a nonproprietary manner.

TEMS research is an area needing great focus but may require federal funding in the future. Such funding may answer questions currently surfacing in the nonmilitary arena. The NTEMSC, when fully organized, will be poised to facilitate such research and data collection and translation into education and training programs and updates.

Although basic and applied research are the fundamental areas where new discoveries and devices are born, translational research amassed from event and agency data will be paramount in determining evidence-based best TEMS practices and judging the validity of current TEMS practices.

A multicenter approach aided by an academic center with a strong informatics program will be paramount

in translating multicenter and multiagency data from national and international sources into fieldable tactical medical TTPs and the next generation of kits and therapeutics.

BCCTPC: Board for Critical Care Transport Paramedic Certification: A nonprofit national testing agency that fields the Critical Care (CCP), Flight (FP-C), and now the Tactical Paramedic (TP-C) exam. The exam is based on the 17 domains of the National TEMS Council.

Over the past several months, The Department of Homeland Security has been gathering TEMS subject matter experts from across the nation to foster TEMS standardization and ensure interoperability before a major event. An extract of the invitation stated the meeting's overall purpose:

... a meeting with subject matter experts to facilitate discussion of next steps in improving survivability in improvised explosive device (IED) and active shooter incidents and identify issues and future actions in Tactical Emergency Medical Services (TEMS) education standards

This meeting is one of a series convened to bring structure to TEMS nationally and ensure interoperability before the occurrence of a major event. Most of the attendees are members of the CoTCCC, C-TECC, and NTEMSC. Many members of these organizations represent other well-known local, state, and national agencies and academic institutions engaged in the practice of TEMS. Several attendees described the meetings as productive. An after action review of the meeting is forthcoming.

It remains the opinion of this author that many some of the aforementioned newer organizations (i.e., C-TECC, NTEMSC) need to come together as one organization to foster greater productivity and lessen administrative and financial burdens associated with funding. The TEMS field and many-associated crisis responders await cogent productive guidance in training and operations that will allow for safe practice with reliable vetted standards. In the meantime, they serve and wait....

Reference

1. Schwartz R, Brooke Lerner B, Llewellyn C, et al. Development of a national consensus for Tactical Emergency Medical Support (TEMS) programs-operators and medical providers. *J Spec Oper Med*. 2014;4:142.

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NIH Website
CTECC Meeting, Baltimore, MD