Chapter 59

ROLE OF THE ARMY PHYSICIAN ASSISTANT IN WEAPONS OF MASS DESTRUCTION CIVIL SUPPORT TEAMS

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Introduction

The National Guard Bureau has created a total of 57 weapons of mass destruction civil support teams (WMD CSTs). The WMD CST units assist, assess, advise, and facilitate support to local, state, and federal agencies in the course of chemical, biological, radiological, nuclear and explosive (CBRNE) incidents. The teams were formed to provide each state and territory with an on-call military CBRNE response unit available at all times. They also provide public safety support for significant events throughout the United States, including championship sports venues, international dignitary visits, and large-scale political events. The WMD CST Army physician assistant (PA) functions as the medical officer for the team.

Originally, the teams were referred to as Rapid Assessment and Initial Detection teams, consisting mostly of traditional National Guard members, and covered the 10 Federal Emergency Management Agency (FEMA) regions. Eventually, these units were converted to Active Guard Reserve status, and each state (versus each FEMA region) stood up fully funded teams with the new name. To date, New York, California, and Florida have two separate WMD CSTs. The US territories of Guam, Puerto Rico, and the US Virgin Islands also have WMD CSTs.

Medical Training

Initial training is provided at the Civil Support Skills Course, held at Fort Leonard Wood, Missouri. Thereafter, the WMD CST PA attends specific training unique to the CBRNE health care provider role. This includes multiple courses in radiation medicine, critical incident stress management, occupational health, and additional educational coursework detailing methods and protocols for the identification and treatment of chemical, biological, and radiation exposures. The comprehensive list of medical training for the WMD CST PA includes the full spectrum of life support certifications: Advanced Life Saver, Basic Life Support, Advanced HAZMAT [hazardous materials] Life Support, Advanced Burn Life Support, Advanced Trauma Life Support, Pre-Hospital Transport Life Support, and the Difficult Airway Course. Also, the PA must complete a trauma rotation on a recurring basis at one of several US locations. The trauma training frequency is dictated by the WMD CST medical section individual training requirements matrix as approved by the National Guard Bureau. In all cases, the WMD CST PA must also maintain HAZMAT Technician certification.[1]

The WMD CST PA occupies a multipurpose duty position, which calls for extensive training and expertise in emergency medicine, trauma medicine, occupational medicine, toxicology, and pre-hospital transport life support. To achieve expertise in toxicology, the PA must understand the chief CBRNE threats. This includes in-depth knowledge of biological agents at an advanced infectious disease level, an understanding of the medical effects of ionizing radiation, and the medical countermeasures for WMD chemical agent exposures. A crucial role for the WMD CST PA is the preservation of occupational safety for all team members in all environments. The seasoned WMD CST PA is a valued asset to the WMD CST commander if the response involves assessing clandestine laboratories or evaluating casualties. These two critical functions help in the identification of downrange CBRNE agents and the appropriate choice of required treatment protocols.

Personnel and Equipment

The WMD CST medical section is comprised of both medical and science components. There are four personnel. A medical operations officer, the team physician assistant, a nuclear medical science officer,

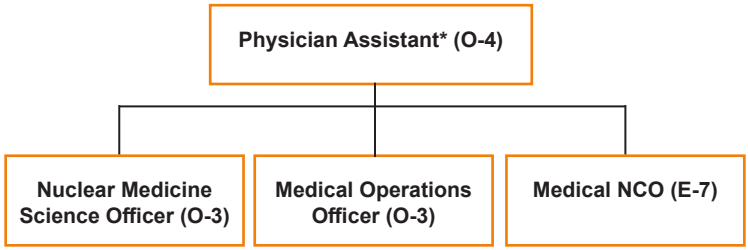

Figure 59-1. Weapons of mass destruction civil support team medical section organization, subject to senior-ranking team members in position.
*Senior officer positions can vary based on tenure.
NCO: noncommissioned officer

and a combat medic, who is usually certified as a paramedic (Figure 59-1). The section has two assigned vehicles, the medical recovery vehicle (MRV) and a mobile analytical laboratory system (ALS). The MRV provides a mobile platform for CBRNE customized prehospital medical support for WMD CST members. The ALS is a state-of-the art mobile laboratory designed to deliver on-scene identification of selected CBRNE threat agents.[1]

Garrison and Deployment

In garrison, the WMD CST PA directs the respirator-based occupational surveillance program for all team members. This includes the completion of the entry, annual, and exit physical exams, as well as maintaining compliance with immunizations required for CBRNE response. Also, the WMD CST PA serves the state community of first responders as a reach-back subject matter expert, and as a trainer to medical staff in both military and civilian hospital settings. As a subject matter expert, the WMD CST PA coordinates and collaborates with state health departments, the Centers for Disease Control and Prevention, the Federal Bureau of Investigation, and the Defense Threat Reduction Agency during missions and training. The role of the WMD CST PA as a medical trainer extends to federal, state, and local public safety personnel, as well as emergency medicine clinicians and emergency medical services providers.

Figure 59-2. (a) "Man-down" exercise, Maine, 2012. Decontamination of the level A (full encapsulation with splash, vapor, and respiratory protection) protective suit is completed prior to emergently removing the suit to further decontaminate the casualty.
Photograph courtesy of the 11th Weapons of Mass Destruction Civil Support Team unit historian photo files.

Figure 59-2. (b) Decontamination line, Florida coast, 2012. The decontamination line provides an organized sequence of decontamination procedures during doffing of personal protective equipment.
Photograph courtesy of the 11th Weapons of Mass Destruction Civil Support Team unit historian photo files.

Upon deployment, the WMD CST PA functions as the medical officer in a CBRNE response or as a contributing medical subject matter expert during joint HAZMAT assessment team missions at high-profile events. The WMD CST's typical site set-up includes a decontamination line delineating the area for casualty management and treatment. Rapid and focused decontamination measures ensure that an injured or exposed team member is quickly advanced to the cold zone (Figure 59-2). In the ever-changing landscape of homeland security requirements, the role of the WMD CST PA continues to evolve as the teams take on new missions, embrace cutting-edge technology, and regularly complete challenging missions.

Desired Skills and Attributes

The WMD CST PA requires a mastery of both the medical and scientific principles associated with CBRNE agents. The PA provides occupational medicine oversight for team members in action while also time serving as an onsite toxicology subject matter expert. These attributes contribute to both the safety of survey team members and prompt identification of CBRNE threats in the hot zone.

Lessons Learned and Tips for Success

The following are lessons learned and are tips for success that will enable the future WMD CST PA to succeed:

- Although the WMD CST program provides extensive medical and scientific training, the WMD CST PA must make an individual effort to master the immense amount of training course information and develop a broad understanding of the medical and scientific effects of CBRNE agents.
- A WMD CST PA on the scene of a CBRNE response must ensure that all survey team members are medically cleared for entry into the hot zone.
- Additionally, the PA must collate all available data associated with the mission response. This can include casualty information (signs and symptoms), law enforcement reports on downrange threats, various forms of intelligence, and background information on suspects.

Conclusion

The role of the WMD CST PA covers several medical and scientific disciplines, including toxicology, laboratory science, occupational medicine, pre-hospital and transport life support, and trauma medicine. The WMD CST medical officer position is a challenging and extremely rewarding career opportunity for the Army PA. With the multidisciplinary training required, the WMD CST PA develops a unique skill set. Once mastered, this knowledge empowers the WMD CST PA with the ability to influence the safe and successful outcome of a WMD CST response. Most importantly, the WMD CST PA ensures the safety of each team member who enters the hot zone.

Reference

1. National Guard Bureau. *Weapons of Mass Destruction Civil Support Team Management*. NGB; May 9, 2011. National Guard Regulation 500-3/Air National Guard Instruction 10-2503.

Additional Sources

- Janssen L, Johnson AT, Johnson JS, et al. *CBRN Respiratory Protection Handbook*. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health; 2018. DHHS (NIOSH) Publication No. 2018-166. Accessed July 3 2020. https://doi.org/10.26616/NIOSHPUB2018166
- Wheelis M. Investigating disease outbreaks under a protocol to the Biological and Toxin Weapons Convention. *Emerg Infect Dis*. 2000;6(6):595–600. doi:10.3201/eid0606.000607.