

USAWC STRATEGY RESEARCH PROJECT

**JOINT MEDICAL READINESS: ARE WE READY TO ANSWER THE WMD THREAT?**

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# Report Documentation Page

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## ABSTRACT

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With the Global War on Terrorism, the threat from weapons of mass destruction (WMD), including attacks using chemical, biological, and nuclear weapons, opens the possibility of a new source of injuries. Traditionally, all wars have the unfortunate result of inflicting injuries on the Soldiers, Sailors, Airmen, and Marines who fight them. With few exceptions, most of these battle related injuries require early surgical intervention to save the most lives. As a result, most military medical units are surgically oriented.

The new medical threat we face replaces injuries from conventional weapons with injuries from biological, chemical, and radiological weapons that current medical capabilities may not be equipped to handle.

This paper examines the medical threats we face from a WMD attack. In order for Joint medical capabilities to meet the WMD threat, the right people with the appropriate specialty training need to be in our inventory and part of the medical response teams. A Joint training requirement must be established across the Services so that all medical personnel can carry out any mission handed to them on any platform in DOD and in any location.



## JOINT MEDICAL READINESS: ARE WE READY TO ANSWER THE WMD THREAT?

The gravest danger our Nation faces lies at the crossroads of radicalism and technology. Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates that they are doing so with determination. The United States will not allow these efforts to succeed.<sup>1</sup>

- President George W. Bush

Weapons of mass destruction (WMD) and the technology to deliver them are the biggest threat to our national security today. This threat is not just to our military forces going into harm's way, but also to the entire global community. Weapons of mass destruction could give rogue states and non-state actors the capability to inflict massive damage to the United States, our friends, and allies.<sup>2</sup> "The U.S. has no peer competitor at the high end of the spectrum of war-fighting capabilities. For that very reason, opponents will seek to fight "asymmetrically," against the grain of U.S. pre-eminence: unconventional warfare at one end of the spectrum of destructiveness; WMD at the other."<sup>3 4</sup>

Clausewitz wrote, "...terror can be used as a weapon only by a revolutionary government."<sup>5</sup> What better source of terror can there be than the threat of using weapons of mass destruction against our civilian populations? Unconventional warfare, such as insurgency, revolution, and terrorism, strikes directly at the most vulnerable people, the citizens, with the hope of toppling the government and its ideology by demonstrating that the government cannot protect its own people.<sup>6</sup> "In addition, new technologies in the hands of rogue states and non-state actors, such as terrorist groups, will continue to be an important consideration for nations .... Weapons of mass destruction are and will probably continue to be of primary concern in this regard."<sup>7</sup>

For these reasons, the National Security Strategy for the United States of America specifically addresses the threat from weapons of mass destruction.<sup>8</sup> The national strategy to deal with WMD is further detailed in the National Strategy to Combat Weapons of Mass Destruction. Some of the ways of attaining these strategic ends are addressed in the National Strategy for Homeland Security and the draft of the soon to be released National Military Strategy to Combat Weapons of Mass Destruction. This paper will examine the National Strategy to Combat Weapons of Mass Destruction and the desired ends the United States hopes to achieve. It will take a closer look at the threat posed by WMD, the mitigating strategies to combat the threat, and the required capabilities to meet the WMD threat. It will then examine the current Joint medical capabilities, specifically looking at the issue of medical readiness, identify possible risks, and provide some recommendations to minimize those risks.

## Desired Ends

The National Strategy to Combat WMD rests on a three-pronged approach: <sup>9</sup>

- Counterproliferation to Combat WMD Use
- Strengthened Nonproliferation to Combat WMD Proliferation
- Consequence Management to Respond to WMD Use

Counterproliferation to combat WMD use deals with a comprehensive plan at the local, state, and national levels, as well as the involvement of civilian agencies, to deter and defend against WMD attacks. The second area, strengthening nonproliferation to combat WMD proliferation, primarily addresses the joining of the international community to prevent states and non-state actors from acquiring or manufacturing WMD and/or the means to deliver them. Finally, the consequence management part to respond to WMD deals with mitigating the effects of a WMD attack.

All three prongs should be developed synergistically and concurrently if the strategy to combat WMD is to be effective. We must also enlist all elements of our power including diplomatic, information, intelligence, economic, finance, and law enforcement - not just the military - if we are to be successful. Although our military is well trained, equipped, and most easily mobilized to deal with an attack, one cannot substitute the agility of our military power for an effective strategy. "Agility is necessary, but it is reactive. If you have no strategy, you are very likely to become part of someone else's strategy."<sup>10</sup>

From a medical perspective, the focus is primarily on minimizing the damage and recovering from attacks should the first two strategies fail. This will take a tremendous amount of coordination and cooperation among local, state, and national governments to provide the required capabilities. For this reason, the federal government developed the National Disaster Medical System. This is "... a federal/private partnership that includes the Departments of Health and Human Services, Defense, Veterans Affairs, and the Federal Emergency Management Agency (FEMA), (which) provides rapid response and critical surge capacities to support localities in disaster medical treatment."<sup>11</sup> In addition, "by authority of Presidential Decision Directive 39 (1995), the military will assist civilian authorities and medical personnel."<sup>12</sup> For these reasons, it is incumbent on military medicine to ensure that we have a full compliment of capabilities required to prepare for attacks before they occur, be ready to assist the civilian medical system in responding to a WMD attack if it should occur, assist in mitigating the effects, and deal with the consequences when it occurs.

## The Threat

Our civilian and military medical response teams are accustomed to handling injuries from natural disasters as well as injuries from conventional weapons. However, they are not as familiar with injuries from biological, chemical, and radiological weapons. Weapons of Mass Destruction (also abbreviated CBRNE) include chemical, biological, radiological, nuclear, and high explosive weapons. The most recent definition calls them Weapons of Mass Destruction or Effect (WMD /E) to include cyber attacks or other attacks aimed at the full spectrum of our power. However, military medicine is most concerned with the threats caused by agents referred to by the CBRNE acronym.

Chemical agents can be in the form of a liquid, solid, or toxic gas. They can be released into the atmosphere, spread through contact, or used to contaminate the food and water supply. They can produce incapacitation, serious injury, and death in massive numbers very quickly. These agents are easily manufactured using basic equipment and use chemicals that frequently have many legitimate uses. The delivery system may require some sophistication to achieve maximum effectiveness or the agent can be simply put into containers and pushed out of airplanes as was done by Iraq against Iran in 1985. The Aum Shinrikyo cult, in 1995, used Sarin, a nerve gas, to cause disruption and fatalities in the Tokyo subway system and demonstrated how easily a terrorist organization could produce and effectively use a chemical warfare agent.<sup>13</sup>

Biological agents include living disease-causing microorganisms (including bacteria, viruses and rickettsia) and the toxins that these organisms may produce. "Biological warfare agents may be more lethal than most chemical agents and provide a broader area of coverage per pound of payload than any other weapon system."<sup>14</sup> Biological agents are also easy to produce with a minimum of equipment and supplies. Furthermore, biological weapons programs can easily be disguised within legitimate medical research and development programs. Dispersal can be as simple as dropping Anthrax spores into an envelope and mailing it or delivering blankets contaminated with the spores to an enemy. In addition, there are other issues to be considered when dealing with a biological threat. The organism may need time to infect its host and the disease process may not be manifested immediately. Therefore, it may be days or weeks before the target is aware that there was an attack. To further complicate the problem, if the infection that was released is a contagious disease (i.e. capable of being spread from one human to another), the number of affected individuals would be larger than those first exposed to the attack. Finally, biological agents can be used not only against humans, but also

against animal herds and food crops, thereby causing a secondary attack on a country's economic power and food supplies.

Radiation threat or a "dirty bomb" is an explosive device that spreads radioactive material into the surrounding area. Much like shrapnel is spread with the blast of a land mine, radiation is released when a dirty bomb explodes. Unlike a nuclear explosion, the force of the explosion and radioactive contamination will be more localized. Depending on the type of radioactive material and the quantity released, the amount of actual damage from the radiation may be minimal from a medical point of view. However, a dirty bomb has tremendous psychological impact from the disruption and fear that it causes. The long term effects of radiation exposure, with the subsequent development of thyroid and other cancers twenty or more years after exposure, is a reality for those who were exposed to the radiation cloud after the accident at Chernobyl in 1986.

Nuclear weapons have tremendous destructive power. The nuclear blast causes intense light and heat resulting in total destruction at ground zero. The pressure wave causes additional damage in a concentric circle expanding from ground zero and the widespread radioactive material can contaminate air, water, and ground surfaces for miles around. The short-term effects are devastating and the long-term effects are measured in years, not in minutes, hours, or days. Nuclear weapons, unlike other weapons of mass destruction, require some sophistication to develop and deliver. However, terrorists could steal or purchase such a weapon and use it for an attack.

High explosive devices, the last of what some consider weapons of mass destruction, cause conventional injuries that our medical systems are used to dealing with and historically have been prepared to handle. However, conventional weapons used in unconventional ways like car bombs, or common items that we never thought of as weapons in the past such as airplanes flown into buildings, can be used by terrorists to cause injuries, fatalities, and disruption to our lives. Massive numbers of even routine injuries can quickly overwhelm regional medical facilities and their ability to provide care.

WMD pose a real threat and need to be countered if success is to be achieved in preventing and dealing with the consequences of a WMD attack. Terrorists will continue to seek new ways to carry out their attacks. In response, the U.S has developed mitigating strategies to defend against these attacks and to deal with the WMD threat.

## Mitigating Strategies to Combat the WMD Threat

The National Strategy to Combat Weapons of Mass destruction is built on three major pillars of counter proliferation, nonproliferation, and consequence management.

We know from experience we cannot always be successful in preventing and containing the proliferation of WMD to hostile states and terrorists. Therefore, U.S Military and appropriate civilian agencies must possess the full range of operational capabilities to counter the threat and use of WMD by states and terrorists against the United States, our military forces, friends and allies.<sup>15</sup>

The Department of Homeland Security and the Department of Defense have addressed the ways of meeting these ends in their own strategy statements.<sup>16</sup>

The Department of Homeland Security was given the responsibility of coordinating the efforts to deal with the threat of WMD attacks to our homeland. The National Strategy for Homeland Security, which provides some of the specific ways of implementing the National Strategy to Combat WMD, has three strategic ends relating to WMD: prevent terrorist attacks within the U.S., reduce America's vulnerability to terrorist attacks, minimize the damage and recover from attacks that do occur.<sup>17</sup> These three strategic ends are further broken down into six critical mission areas. Two of the six critical missions, Defending against Catastrophic Threat and Emergency Response and Preparedness, have direct medical requirements. The critical missions are further subdivided into major initiatives. These major initiatives have goals and timelines associated with them which are the first steps needed to reach a critical mission objective and thereby eventually attain the strategic ends.

Major initiatives that have medical requirements under the critical mission of Defending against Catastrophic Threat are:<sup>18</sup>

- Detect chemical and biological materials and attacks
- Improve chemical sensors and decontamination techniques
- Develop broad-spectrum vaccines, antimicrobials, and antidotes

Under the critical mission, Emergency Preparedness and Response, there are twelve major initiatives. Eight have medical implications and requirements:<sup>19</sup>

- Integrate separate federal response plans into a single all-discipline incident management plan
- Enable seamless communication among all responders
- Prepare health care providers for catastrophic terrorism
- Augment America's pharmaceutical and vaccine stockpiles
- Prepare for chemical, biological, radiological, and nuclear decontamination
- Plan for military support to civil authorities
- Build a national training and evaluation system
- Enhance the victim support system

Although Homeland Security is primarily a civilian department, one of its major initiatives is a plan for military support to civil authorities.<sup>20</sup> The military was an integral part in the recovery after the attacks of September 11, 2001. Active forces, reserves, and national guards were involved with augmenting security efforts, flying air combat patrols, and even providing a hospital ship to serve as a hotel while the clean up was proceeding in New York. "Military support to civil authorities pursuant to a threat or attack may take the form of providing technical support and assistance to law enforcement; assisting in the restoration of law and order; loaning specialized equipment; and assisting in consequence management."<sup>21</sup> Therefore, the military medical system "...must also have the ability to rapidly and effectively mitigate the effects of a WMD attack against our deployed forces..."<sup>22</sup> either at home or abroad.

The National Defense Strategy lists securing the United States from direct attack as its number one strategic objective.<sup>23</sup> In April 2002, President Bush approved a plan to establish a new unified combatant command, U.S. Northern Command, responsible for homeland defense. The commander of Northern Command will "...provide support to domestic and civil authorities in response to natural and man-made disasters and during national emergencies."<sup>24</sup> The National Military Strategy "provides focus for military activities by defining a set of interrelated military objectives and joint operating concepts from which the Service Chiefs and combatant commanders identify desired capabilities..."<sup>25</sup> Northern Command, like other combatant commands, will need to identify the specific capabilities that will be required to support the mission of homeland defense and combating WMD.

With the new capabilities-based strategy outlined in the National Defense Strategy, DOD has recently developed its own strategy for combating WMD. This document, the National Military Strategy for Combating Weapons of Mass Destruction, has yet to be signed, but its final draft lays out the military role in this task.

The National Military Strategy for Combating WMD builds on the combating WMD guidance in the Chairman's National Military Strategy by establishing strategic objectives and mission areas and defining the guiding principles and strategic enablers for the military role in combating WMD.<sup>26</sup>

Unlike the National Strategy for Homeland Security, neither the National Military Strategy nor the National Military Strategy for Combating Weapons of Mass Destruction is as specific in outlining the ways and means needed to combat WMD.

The unique physical, toxicological, destructive, and other properties of each type of CBRN threat require that operational and technological responses be tailored to the threat and to the diverse requirements of military operations supporting national security and homeland security missions.<sup>27</sup>

### Required Capabilities

“System-specific requirements to support the 1-4-2-1<sup>28</sup> force planning construct are not available at this time. The Services are conducting a study this year that will provide the analytical basis for defining requirements for each Service and for total Joint requirements.”<sup>29</sup> Although specific military requirements have not been defined, the National Strategy for Homeland Security, the National Military Strategy, and the National Military Strategy for Combating Weapons of Mass Destruction have some common themes that support the National Strategy to Combat Weapons of Mass Destruction. From these documents one can make an extensive list of required medical capabilities (such as WMD training, better detection, and identification of agents used in a WMD attack, improved and lighter personal protective equipment, medical prophylaxis, immunizations, treatment, and medical readiness to name a few) to meet those requirements. One must also consider the research, development, and funding required to support the development and implementation of these required capabilities. Without going through this exhaustive list, focus will be on just one major area, medical readiness, to assess what the current Joint medical capabilities are and whether we are prepared to meet the WMD threat.

The author defines medical readiness using the five R's of readiness; having the right people, with the right training, in the right place at the right time with the right equipment and supplies.

Having the right people means that the appropriate medical specialty is part of the first responders and consequence management medical team. Current military medical units are surgically oriented to deal with the typical injuries seen in wartime scenarios. There are surgeons, operating room nurses and technicians, critical care nurses, etc. The standard deployable medical units are a mix of the usual medical personnel found in every military and civilian hospital. However, the critical specialists that would be needed to treat injuries from a WMD attack (i.e. infectious disease specialists, microbiologist, public health officers, and preventive and pulmonary medicine specialists) are sorely lacking from these medical units. When the General Accounting Office (GAO) examined the issue of the required specialists in the military medical inventory, they “...found that neither DOD nor the services had systematically examined the current distribution of medical personnel across specialties with respect to adequacy for chemical and biological defense.”<sup>30</sup> Not only are the right specialists possibly lacking from our medical inventory, but there is no agreement among the services as to what types of specialists are needed to deal with WMD attacks.

Although the services had begun to review the staffing of deployable medical units for chemical warfare scenarios, they had not done so for biological warfare scenarios. In general, DOD has not successfully adapted its conventional medical planning to chemical and biological warfare.<sup>31</sup>

The second R, the right training as it relates to WMD involves training in four separate areas. First, medical personnel must be trained, like all members of the military, to protect themselves in a contaminated environment. They must have a basic understanding of personal protective clothing and other gear as well as basic knowledge of decontamination procedures. Second, it is usually assumed that medical personnel have had the training to practice their given specialty, but an additional training requirement is the ability to deal with the special care required to treat casualties from a WMD attack. Most physicians and medical personnel have had no formal training in medical school or postgraduate residency training to deal with injuries from chemical, biological, or nuclear weapons. Even fewer have been trained to deal with the large number of injuries that would be expected from such an attack. Although all branches of the service practice mass casualty drills, in the author's experience, these have been exercises on how to move large numbers of patients from one area to the next and not how to treat large number of patients. Third, the medical community needs training and practice in performing their specialties and treating WMD patients in a contaminated environment requiring personnel to conduct all operations in full Mission-Oriented Protective Posture (MOPP).<sup>32</sup> Finally, to function in joint environment, medical personnel will need platform specific training. Most medical personnel are used to functioning in a hospital setting and may easily adapt to a field hospital or other land based treatment facility. However, it does take some specific training for Army medical personnel to work on a naval ship or for Navy doctors to work in the air while transporting patients. To truly have Joint medical capabilities will require inter-service platform training, which is not included in any of the current training programs.

The different services offer courses, throughout a career, that address some of these training issues. However, the requirements for when this training needs to be accomplished, how often it should be done and how it should be done (i.e. classroom, on-line, exercises) has not been standardized among the services. In addition, because of slightly differing medical missions among the services, there is different emphasis on certain areas of training. For example, the Army Medical Department (AMEDD) supports DOD and federal counterterrorism initiatives and contingency operations related to CBRN threat<sup>33</sup> while the Air Force primarily trains to protect the air base if attacked and has limited responsibility to support civilian authorities.<sup>34</sup>

A review of the Annual Report of the Department of Defense Chemical, Biological, Radiological, and Nuclear Defense Program (CBRNDP), shows only 35 % of the clinicians and 44% of the non-clinicians of the total Army Medical Department (AMEDD) personnel had completed Medical CBRNE training in FY03.<sup>35</sup>

The Navy did somewhat better with 77% of the clinicians and 60 % of non-clinicians trained in FY03.<sup>36</sup> However, on closer examination of this data, AMEDD reported training of all Army medical personnel, while the Navy numbers report only those medical personnel currently deployed or in a deployable status.

Although specific Air Force percentages were not reported in the CBRNDP annual report, the Air Force was the most specific as to what training and exercises need to be completed and had the most stringent requirements for initial and refresher training. However, the Air Force based the initial training and refresher training of their personnel on the assessed risk to their assigned base. Bases designated in high-risk areas received initial and refresher training more rapidly and more frequently than those in low risk areas. Because of this, if numbers were reported by the Air Force, they would be difficult to compare to the other services.

The next two R's of medical readiness, in the right place at the right time are best illustrated by looking at the first responders. "Our first responders must have the full range of protective, medical, and remedial tools to identify, assess, and respond rapidly to a WMD event on our territory."<sup>37</sup> WMD attacks using chemical or biological agents have the potential to overwhelm local, state, and privately owned medical facilities in the area because many people who have not actually been exposed to the attack may believe that they have been. Some estimate that for every one real casualty there may be nine others who think they were exposed and will still require evaluation, diagnosis and, if nothing else, psychological treatment and support.

To get some idea just what first responders would face in the event of a WMD attack, consider a chemical attack in Washington D.C. Release of a chemical agent in the subway system would require a massive number of rescuers, in protective equipment, just to search for and recover the casualties. Most city fire and rescue workers do not have the capability or enough protective gear to conduct such a search and rescue. Washington D.C. does have a slight advantage in that it is home to the Marine Corps Chemical and Biological Incident Response Force (CBIRF). CBIRF is a specialized unit consisting of active duty Marines and Navy personnel who are on a one-hour alert and can respond to such an incident to assist local first responders. The unit can be dispatched and arrive on the scene of an incident (depending on distance from the base of operations) within four hours. The unit trains full time and has

enough personnel and protective equipment to perform sustained operations. “Unfortunately, it is the only Department of Defense (DOD) unit that provides a major search, extraction, and decontamination capability.”<sup>38</sup> There are efforts underway to expand the number of these specialized units either by using the active duty forces, reserve forces, the National Guard, or a combination of all three. They would be located near major population areas and would be available to assist local authorities with identifying the agent, entering the contaminated area finding, extracting, decontaminating, and doing the initial medical treatment of WMD casualties. Currently, there is a large gap between the time local first responders are overwhelmed and when and if other assets can be mobilized. Until more CBIRF type units are formed either by DOD, local, federal, or even private institutions, this deficiency will likely persist.

“Defense Reform Initiative Directive (DRID) 25, dated 26 January 1998, approved implementation of the DOD Plan for Integration of the National Guard and Reserve Component into Domestic Weapons of Mass Destruction Terrorism Response.”<sup>39</sup> As a result, the National Guard formed WMD-Civil Support Teams (WMD-CST). Currently there are 32 such teams formed by various state National Guard Units that can respond to support civil authorities in case of a WMD attack. These CSTs can be deployed to areas of high threat or any area where there are large groups of civilians gathered (i.e. sporting events, concerts, etc.) where there may be a high probability of an attack. The CSTs like the CBIRF units support civil authorities with identification of the WMD agent, but unlike CBIRF have limited personnel to assist civilian first responders with search, extraction, and decontamination capability. CSTs main mission is “...assessing current and projected consequences, advising on response measures, and assisting with appropriate requests for state support to facilitate additional resources.”<sup>40</sup>

Other DOD assets provide some of the capabilities present in CBIRF. Army Decontamination/Reconnaissance Units will assist with extraction and decontamination efforts, Navy Forward Deployed Preventive Medical Units (FDPMU) can assist with detection and identification of agents used in an attack, but the ability to provide comprehensive sustained operations in all required areas as provided by CBIRF and to mobilize them quickly in the event of an attack is severely lacking.

The last R of readiness, the right equipment, is complicated. This issue can be divided into unit equipment and individual equipment requirements. Unit equipment includes specialized equipment to rapidly detect and identify the specific agents used in an attack. Although most combat units carry equipment capable of gross detection, specialized equipment and personnel are needed for specific identification of the agent used. Specific identification is needed if medical treatment is to be tailored to the chemical or biological agent used. This

tailored medical treatment may require the use of respirators, isolation beds, and medications which are not normally found in current deployable medical units. Although, there may be respirators and a small number of isolation beds available in some of the larger deployable units, (Naval Fleet Hospitals and the Hospital Ships to name a few) it is unlikely even these large facilities have the ability to treat the anticipated large numbers of burn victims and patients who would be respirator dependent or require isolation following a WMD attack. The author participated in an exercise in which a fictitious terrorist group released a chemical agent during the 2004 Olympic Games in Athens. Estimated casualties numbered in the thousands and the number of anticipated respirators required was greater than the total number of respirators that were available in all of Europe.

Individual equipment items include the MOPP gear worn by personnel, individual treatment packs for use in a chemical attack, and immunizing all military personnel against possible biological agents. Without going into the different types of MOPP gear needed by the different services (i.e. aviation protective ensembles, surface ensembles) and confining ourselves to the personal medical readiness issue of immunizations, the individual equipment issue is a very expensive undertaking in both time and money. First, there is the time and cost involved with the research and development of new vaccines. Second, there is the expense of vaccinating all military personnel, maintaining accurate records, and keeping immunizations current. In addition, the time involved with the research and development of new vaccines is at odds with the urgency needed to develop them quickly. However, safety of new vaccines cannot and should not be compromised simply because of urgency. Finally, to further complicate matters, there is the legal issue surrounding the mandatory vaccination programs that are currently being addressed in our courts and are beyond the scope of this paper.

#### Risk and Recommendations

With regard to personnel, the Department of Defense must determine the correct medical specialists that will be required to perform the missions that may lie ahead. We need to examine our inventory of these critical specialists, determine the number that will be required, and develop ways to recruit specialists where there are critical shortages. Many of the specialists who are in the current inventory have been in high demand over the past few years. They have been in a constant deployed status and this has caused some problems with retention of these critical individuals. Because of the failure to identify, recruit, and retain the specialists we have, the Joint medical resources required for WMD mission support are truly

deficient. This represents a significant risk in our ability to respond to a WMD attack either at home or abroad.

Once a complete list of medical specialists has been established, efforts must be made to decide how this limited resource will be used. How do we deal with high demand, low numbers, and high operational tempo? This may take some innovative thinking as to how they will best be utilized and deployed. Do we use specialized units such as the Navy's Forward Deployed Preventive Medical Units, attaching them when needed to our standard deployable medical units (as currently done) or do we centrally locate these specialized units to allow these high demand professionals to provide assistance and guidance to the medical personnel directly involved with patient care following a WMD attack. If centrally locating them is deemed the best option, where will this be? What will be the time requirement to have them available for consultation or, if need be, for deployment? The specific stationing posture should be determined through Joint analysis, experimentation, and risk mitigation. This would provide the answers to these questions and the necessary information to best utilize this limited resource.

For Joint medical training to be a reality there must be consistent and comprehensive training in all four areas: personal training, medical treatment of the WMD casualty, carrying out all duties in a contaminated environment, and platform training. Training needs to be standardized across all services and cover all medical personnel, it cannot be just for those deploying or in a deployable status. By requiring all medical personnel to be trained, overall medical readiness should be capable of dealing with an attack either at home or abroad. In view of the fact that the military will most likely be called upon in the event of a WMD attack, it behooves us to have widespread training of our medical personnel in order to respond quickly should an attack occur.

In a GAO testimony addressing, "*Chemical and Biological Defense: DOD Should Clarify Expectations for Medical Readiness*", on the topic of training they reported:

The services have not defined standards for treatment of chemical and biological casualties nor tested the proficiency of medical personnel. ...indirect evidence indicates that the likelihood of chemical and biological casualties receiving proficient medical care remains low, due in part to weak or absent requirements for training, as well as testing and certification, of medical staff.<sup>41</sup>

In response to GAO's findings regarding training, the most recent annual report of CBRN Defense Plan summarizes the some of the plans to correct the deficiencies noted by GAO:

Services develop CBRN medical training requirements and assess the effectiveness of the training with rigorous proficiency metrics and standards....

DOD develops and maintains information management systems to monitor completion of required CBRN training and track the proficiency of medical personnel.

Each service is capturing the training and is actively seeking more rapid and standardized methodology. The Joint Staff, Combatant Commanders, and Services increase the realistic exercise of medical support and explore scenarios that overwhelm them.<sup>42</sup>

Although the current CBRN Defense Plan may provide answers that will help to rectify the training issue, none of these proposed corrective actions are associated with a timeline indicating when they will be implemented, let alone when these rectifying plans will be completed.

Whenever there is agreement as to what training needs to be performed and who needs to be trained, the last three obstacles to overcome are: How often is the training carried out? Where does the money come from to conduct it? How does military medicine maintain routine medical services while the training is conducted? These are some of the questions to be addressed before a definitive solution to the Joint training requirements can be obtained. Unfortunately, these three questions are the most difficult to answer and the most costly to accomplish.

To get more people in the right place at the right time will also require some concerted effort among the services. Expansion of the number of CBIRF units, which is addressed in an article by Thomas Hammes,<sup>43</sup> and/or expanding the number and capabilities of the CSTs, would provide a rapidly deployable force to assist civil authorities in the event of a WMD attack. The more of these units (or units like them) we have, the more rapid will be our response times. Again, cost becomes an issue, not so much in the cost of the actual personnel per se, but in the cost of personal time of those required to maintain a 24/7 response force. This will cause a tremendous drain on the morale and time of our personnel. Unfortunately, time is one resource that is not renewable and cannot ever be replaced.

The equipment issue needs to be addressed at the unit and individual level. At the unit level, the required equipment is either not part of the equipment set of most deployable medical units or is not available in the numbers that would be needed in the event of a WMD attack. To obtain funding for this specialized unit equipment would mean competing against other equipment needs to conduct routine medical care and to deal with the more common injuries seen by the deployable medical units. Individual equipment includes personal protective gear, a robust immunization program including research, development, acquisition, administration, and tracking. Since the time to develop new immunizations is variable and the time it takes to

gain approval by the Federal Drug Administration is relatively fixed, it is imperative we improve all other aspects of the immunization program as rapidly and as efficiently as possible.

In summary, the equipment required for medical readiness is complicated, time consuming, and expensive. To answer where priorities should be focused may require a Joint experiment to demonstrate the requirements needed for dealing with a WMD attack. Once this experiment has established the requirements, a Joint concepts integration and development based program for funding will help guide the cost benefits analysis and the priority of the various equipment items identified.

#### Summary and Conclusions

This paper examined the current National Strategy to Combat Weapons of Mass Destruction. It made it clear there was a real threat to the U.S. at home and abroad from a WMD attack. The ends - counter proliferation, nonproliferation, and consequence management - are real and are not unrealistic or unattainable. The ways to attain these goals are clear in some areas and nebulous in others. DOD has not addressed all of the issues surrounding a WMD attack, but has at least considered many of them. Implementation, as always, involves funding and prioritizing the needs according to the threat. Military medicine, in all likelihood, will be called upon to assist local and state authorities in the aftermath of a WMD attack, either at home or abroad. The different medical departments of the services have not come to a consensus about the treatment of WMD casualties. With regard to medical readiness, the capabilities of medical personnel have not been sufficiently trained and tested in their ability to deliver the required support. As a result, Joint medical readiness to deal with the consequences of a WMD attack against the U.S, its troops, or its allies cannot be ensured. Although there are "...efforts to plan and train for these threats, there is a wide and longstanding gap between DOD's appraisal of chemical and biological threats and DOD's medical preparedness to meet them." <sup>44</sup>

In order for Joint medical capabilities to meet the WMD threat, the right people with the appropriate specialty training need to be part of the medical response teams. We need to be sure the right specialists are currently in our inventory and develop ways to best employ and retain them. A Joint training requirement must be established across the Services so that all medical personnel can carry out any mission handed to them on any platform in DOD and in any location. Additional CBIRF type units need to be stood up with proper staffing, funding, and resources to provide a rapid and more capable first responder force. Equipment items that need to be addressed deal with both unit and individual equipment items. Each of these

items will require a comprehensive evaluation to determine the cost benefits of each item. This would be best accomplished using Joint concepts integration and development based program for funding.

The threat is real and the time to deal with a WMD attack is now! It is not a question of if a WMD attack will occur, but when it will occur. "...History will judge harshly those who saw this coming danger but failed to act. In the new world we have entered, the only path to peace and security is the path of action."<sup>45</sup>

#### Endnotes

<sup>1</sup> George W. Bush, National Security Strategy for the United States of America (Washington, D.C.: The White House, September 17, 2002), opening letter page 2

<sup>2</sup> George W. Bush, National Strategy to Combat Weapons of Mass Destruction (Washington, D.C.: The White House, December, 2002), 1

<sup>3</sup> Steven J. Cimbala, "Nuclear Weapons in the Twenty-first Century: From Simplicity to Complexity," Defense & Security Analysis Vol 21, No 3,(September, 2005): 270

<sup>4</sup> Roger W. Barrett, *Asymmetrical Warfare: Today's Challenges to US Military Power*, (Washington,D.C.: Brassey's, 2003, 95-110

<sup>5</sup> Carl Von Clausewitz, *On War*, Edited and translated by Michael Howard and Peter Paret,(Princeton, NJ, Princeton University Press, 1984), 609

<sup>6</sup> Cimbala,270

<sup>7</sup> J. Boone Bartholomees, Jr.,ed., *U.S Army War College Guide to National Security Policy and Strategy* (July 2004), 108

<sup>8</sup> George W. Bush, National Security Strategy for the United States of America, 13-16.

<sup>9</sup> George W. Bush, National Strategy to Combat Weapons of Mass Destruction, 2.

<sup>10</sup> Alvin Toffler, "How will future wars be fought?", Army Medical Strategy: Issues for the Future, available at [www.rand.org/publications/IP/IP208/](http://www.rand.org/publications/IP/IP208/); Internet; accessed 11 Oct, 2005

<sup>11</sup> George W. Bush, National Strategy for Homeland Security, (Washington, D.C.: The Office of Homeland Security, July 2002) 43

<sup>12</sup> Brigadier General Russ Zajtchuk, ed., *Text Book of Military Medicine: Medical Aspects of Chemical and Biological Warfare* (Office of the Surgeon General, Department of the Army, United States of America, 1997)6

<sup>13</sup> Ibid., 113

<sup>14</sup> Ibid., 452

<sup>15</sup> George W. Bush, National Strategy to Combat Weapons of Mass Destruction, 2

<sup>16</sup> In addition, an interagency has also been developed to coordinate all activities among the various governmental groups and have an Interagency Strategy for Combating WMD Terrorism.

<sup>17</sup> George W. Bush, National Strategy for Homeland Security, 3

<sup>18</sup> Ibid., 37-40

<sup>19</sup> Ibid., 41-45

<sup>20</sup> Ibid., 44

<sup>21</sup> Ibid., 44

<sup>22</sup> George W. Bush, National Strategy to Combat Weapons of Mass Destruction, 3

<sup>23</sup> Donald H. Rumsfeld, The National Defense Strategy of the United States of America, (Washington, D.C.: Department of Defense, March 2005), 6

<sup>24</sup> George W. Bush, National Strategy for Homeland Security, 45

<sup>25</sup> Richard B. Meyers, National Military Strategy for the United States of America (Washington, D.C.: Chairman of the Joint Chiefs of Staff, 2004)2

<sup>26</sup> Peter Pace, National Military Strategy for Combating WMD (Washington, D.C.: Chairman of the Joint Chiefs of Staff, Final Draft 2005 )lines 87-89

<sup>27</sup> Department of Defense, Department of Defense Chemical, Biological, Radiological, and Nuclear Defense Program Annual Report to Congress (Washington, D.C.: Department of Defense, May 2004 )ii

<sup>28</sup> Ibid. "1-4-2-1" force planning construct articulated in the *Department of Defense Annual Report to the President and the Congress*, September 2002. Put succinctly, the DOD CBRNDP will support "1-4-2-1" force planning to accomplish the following:

"The United States will maintain sufficient military forces to protect its people, territory, and critical defense-related infrastructure against attacks from outside its borders, as U.S. law permits." (that is, **1**);

"Deter aggression in four critical theaters: Europe, Northeast Asia, the Asian littorals, and the Middle East/Southeast Asia" (that is, **4**);

"Swiftly defeat aggression in any two theaters of operation in overlapping timeframes" (that is, **2**); and,

"Decisively defeat an adversary in one of the two theaters, including the ability to occupy territory or set the conditions for a regime change" (that is, **1**).

<sup>29</sup> Ibid., CBRNDP annual report, ii

<sup>30</sup> Nancy Kingsbury, U.S. General Accounting Office, testimony *Chemical and Biological Defense: DOD Should Clarify Expectations for Medical Readiness*, (Washington D.C.: U.S. General Accounting Office, November, 2001)2

<sup>31</sup> Ibid

<sup>32</sup> Mission-Oriented Protective Posture consists of specialized clothing and equipment which protects the wearer against nuclear, biological, and chemical contamination.

<sup>33</sup> Department of Defense, Department of Defense Chemical, Biological, Radiological, and Nuclear Defense Program Annual Report to Congress (CBRNDP) (Washington, D.C.: Department of Defense, May 2004 )132

<sup>34</sup> Ibid 136-138

<sup>35</sup> Ibid., 111

<sup>36</sup> Ibid., 119

<sup>37</sup> George W. Bush, National Strategy to Combat Weapons of Mass Destruction, 5

<sup>38</sup> Thomas X. Hammes, "Responding to Chemical and Biological Incidents at Home," Joint Forces Quarterly, 36 (First Quarter 2005) 80

<sup>39</sup> Ibid., CBRNDP annual report, 77

<sup>40</sup> Ibid

<sup>41</sup> Kingsbury, 3

<sup>42</sup> Ibid., CBRNDP annual report, 140

<sup>43</sup> Hammes, 79-87

<sup>44</sup> Kingsbury, 4

<sup>45</sup> George W. Bush, National Security Strategy for the United States of America, opening letter page 2