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Graduate Management Project:

Naval Medical Center Portsmouth as Federal Coordinating Center, National Disaster Medical System: An Analysis of Activation Preparedness

A Graduate Management Project Presented to:

LT Suzanne J. Wood, PhD, MSC, USN

In partial fulfillment of requirements for the

Army-Baylor Graduate Program in

Health and Business Administration

2007-2009

By

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Abstract

Emergency Management has been around in our country for more than two centuries and, during that time, has undergone significant changes. However, it was in the days following September 11, 2001 that the U.S. realized that the threats America faces today are much greater than those faced in previous years. The threats posed by terrorism could prove to be more than our current system can handle. New legislation created Federal Coordinating Centers (FCCs) that were strategically placed Veteran's Administration (VA) and Department of Defense (DoD) hospitals, which could be called upon to set up receiving centers and accept patients from other areas in response to a man-made or natural disaster. Naval Medical Center Portsmouth (NMCP) is the designated FCC for the Hampton Roads region of Southeast Virginia. As such, NMCP understands and recognizes the need to be prepared for the possibility of being activated to receive patients. This paper analyzes the preparedness of NMCP to be activated under the National Disaster Medical System (NDMS), and compares NMCP's full-scale drill to FCCs that have been activated for real world events.

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Disclaimer

The opinions or assertions expressed in this paper are those of the author and are not to be construed as reflecting the official policy or position of Naval Medical Center Portsmouth, Baylor University, U.S. Army Medical Command, Department of the Army, Department of the Navy, Department of Defense, or the U.S. Government.

Ethical Considerations

No personal identifying information was used during this study. The author declares no conflict of interest or financial interest in any product or service mentioned in this paper.

Table of Contents

List of Appendices

Introduction

Emergency management has been around in our country for more than two centuries. The first act, generally considered the first piece of disaster legislation, was the Congressional Act of 1803, which provided assistance to a New Hampshire town following an extensive fire (FEMA, 2008). Over the next century, hundreds of ad hoc laws were passed in response to hurricanes, earthquakes, floods and other natural disasters (FEMA). In the early 1930's, the federal approach to disaster response became popular, and from 1934 to the late 1970's additional legislation was passed that created new agencies to address specific disasters as they occurred. This piecemeal approach to disaster assistance was problematic, prompting legislation that required greater cooperation between federal agencies, and authorizing the President to coordinate theses activities (FEMA, 2008). In 1979, responding to a request from the National Governor's Association, President Jimmy Carter signed Executive Order 12127, which ordered the merging of many separate disaster-related responsibilities into the Federal Emergency Management Agency, or FEMA (FEMA, 2008). From that time, FEMA and the systems established under it "stood the test of time" and were the "…basis of the current all hazards approach to emergency planning within the United States. They were

considered fully adequate for most purposes until the events of September 11, 2001" (Couig, Martinelli, & Lavin, 2005, p.35).

Following the terrorist attacks of September 11, 2001, the incident management landscape in the United States dramatically changed (DHS, 2004). In the following days, many in the U.S. realized that the threats to America were far more complex than those faced in previous years. Additionally, the threats posed by terrorism may prove to be more than the current incident management system could handle. It was apparent there needed to be a new approach to domestic incident management. The first big step came on October 8, 2001 when President George W. Bush created the Department of Homeland Security (DHS) charging them to produce the nation's first ever National Strategy for Homeland Security (Office of the President of the United States, 2002). On November 25, 2002, the 107th Congress passed the Homeland Security Act of 2002. This act officially established the Department of Homeland Security as an executive department of the United States with the primary mission to: (1) prevent terrorist attacks against the U.S.; (2) reduce the country's vulnerability to terror; (3) minimize damage; and (4) assist in recovery following terrorist activities (107th Congress, 2002). Three months later on February 28, 2003, President George W. Bush signed the Homeland Security Presidential Directive 5 (HSPD-5), a directive to enhance the ability of the U.S. to

manage domestic incidents (HSPD-5, 2003). Under this executive order, the Homeland Security Secretary would establish a "single, comprehensive national incident management system" that would allow all levels of government throughout the nation to work efficiently and effectively together in the prevention, preparation, response, and recovery from terrorist attacks, major disasters, and other emergencies (HSPD-5, 2003, p.2). Then in January 2005, in accordance with the National Strategy for Homeland Security, the Homeland Security Act of 2002, and the Homeland Security Presidential Directive 5 (HSPD-5), DHS Secretary Tom Ridge along with other cabinet members signed into existence the National Response Plan (NRP). This plan would be used by the U.S. Government to coordinate a massive response in the event of a national domestic incident (Couig, Martinelli, & Lavin, 2005).

Over the last eight years, the United States has had to reconsider the effectiveness of the nation's emergency response system. The 2008 revision of the National Incident Management System manual states "The September 11, 2001, terrorist attacks and the 2004 and 2005 hurricane seasons highlighted the need to focus on improving emergency management, incident response capabilities, and coordination processes across the country" (DHS, 2008a, p.5). It was during these trying times that serious systematic failures in the nation's emergency response system

were noticed. The terrorist attacks on September 11, 2001 highlighted such failures. Rescue efforts were hampered by communications failures, fractured command structures, and poorly conceived evacuation plans (Mondics, 2004). Additional weaknesses were uncovered when, in 2004, four tropical storms ravaged central and northern Florida and the Wildland Fire Center documented that "respondents reported widely that there was little in the form of procedures, systems, or process to work with prior to or upon arrival, and that the events were driven as much by personality and luck as they were guided by standardization" (Mission Centered Solutions Inc., 2004, p.4). The same report acknowledged that many respondents were frustrated with differing policies, practices, doctrine and poorly defined procedures that created a variety of problems. During hurricanes Katrina and Rita in 2005 words such as *failure*, *inadequate*, and *chaotic* echoed from almost every news source that reported on the emergency response to the affected areas.

Although the above scenarios dealt mainly with the on-scene emergency response the same scrutiny needed to be placed on the evacuation/tracking of patients and displaced citizens. This continuum of the emergency response system, also called medical regulation (MEDREG), should have been well defined so that

evacuees did not get lost while en route to definitive medical care in areas unaffected by the disaster.

HRMMRS

The organization with which NMCP partners to ensure readiness is the Hampton Roads Metropolitan Medical Response System (HRMMRS). The Metropolitan Medical Response System (MMRS) is a U.S. Department of Homeland Security program that provides funding to the 124 largest jurisdictions to assist in maintaining plans, purchasing equipment and pharmaceuticals, and conducting exercises and training to develop and sustain the capabilities to respond to a mass casualty event, whether caused by a weapons of mass destruction (WMD) terrorist act, epidemic disease outbreak, natural disaster, or HAZMAT accident during the early hours critical to lifesaving and population protection (HRMMRS, 2009). The Hampton Roads MMRS (or HRMMRS), created in 1999, is made up of ten cities and six counties covering a total of 2,900 square miles and a population of roughly 1.58 million residents (HRMMRS). In 1999, only four Hampton Roads cities qualified for the federal funding provided under the MMRS program; however, in the interest of preparedness, all sixteen jurisdictions agreed to form the HRMMRS committee to oversee the distribution of funds.

NMCP

Naval Medical Center Portsmouth (NMCP) is a 360 bed facility, which occupies a 112 acre site along the Elizabeth River in downtown Portsmouth, VA. A fully accredited, tertiary care facility, NMCP has an average daily inpatient load of 238 patients. NMCP is one of the Navy's three main teaching hospitals with residency programs in thirteen specialty areas (EVMS, 2009). NMCP became the Federal Coordinating Center (FCC) for the Tidewater region of Southeast Virginia in 1997. Since that time, NMCP has partnered with 20 hospitals as well as with the Hampton Roads Metropolitan Medical Response System (HRMMRS) to ensure interoperability with civilian hospital and Emergency Medical System (EMS) agencies.

Conditions that Prompted the Study

Naval Medical Center Portsmouth is the designated FCC for the Tidewater region of Southeast Virginia. As such, NMCP's leadership and staff as well as the local and regional leaders understand and recognize a need to be prepared for the possibility of a National Disaster Medical System (NDMS) activation. The worst time for an FCC to realize it is not ready is when it has been activated and patients are en route. It is understood at this command that to be successful there must be coordination and interoperability with the surrounding civilian agencies and participating NDMS hospitals. Memorandums of

understanding (MOUs) are important and a condition of the process. However, understanding interoperability must occur and be practiced so that the civilian community understands the military role and vice versa. Per FCC guidelines, each designated FCC must conduct at least one full-scale patient reception drill every three years. Because a full-scale exercise had never been conducted, an exercise series was scheduled and executed that included a Table-top Exercise (TTX) and a Full-scale Exercise (FSE) to test the efficacy of the facility in coordinating multiple agencies.

Statement of the Problem

Based on the feedback from the full-scale NDMS drill, the question arose: *How prepared is Naval Medical Center Portsmouth to receive casualties as a Federal Coordinating Center (FCC) under the National Disaster Medical System (NDMS) in the event of a natural or man-made disaster?* A secondary question was: *How do we compare to other FCC facilities that have been activated under NDMS and received evacuees during a real world event?* In answering these questions, an analysis of activation preparedness was determined to be the best approach. The following study, therefore, seeks to address policies and procedures that result in the successful activation of the medical center when required.

Purpose Statement

The National Response Framework (NRF) is an all encompassing set of guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies (DHS, 2008a). This paper concentrates on only one portion of the NRF which is the National Disaster Medical System (NDMS); more specifically, it focuses on the Federal Coordinating Centers (FCC's), and how well prepared Naval Medical Center Portsmouth (NMCP) is as the designated FCC for the Hampton Roads region of Southeast Virginia. This project investigates the processes of FCCs that have been activated for real world scenarios and weigh them against the lessons learned during the NDMS full scale drill conducted at NMCP in October 2008. Completion of this project is intended to highlight the strengths of NMCP as an FCC and to build an improvement plan to addressing any deficiencies or weaknesses.

National Response Framework (NRF)

The National Response Framework, the recently renamed the National Response Plan (NRP), presents the guiding principles that enable all partners to prepare for and provide a unified National response to disasters and emergencies (DHS, 2008a). This framework describes how communities, tribes, states, the federal government, and private-sector and nongovernmental

partners apply principles for a coordinated, effective national response (DHS, 2008a). It was designed so that all agencies that may be called upon to respond to a disaster would be able to communicate and work together under a standardized set of guidelines. Under HSPD-5, the new NRP aligns federal coordination structures, capabilities, and resources into a unified, all-discipline, all-hazards approach to domestic incident management (U.S. Department of Homeland Security, 2004). The NRF assists in the important homeland security mission of preventing terrorist attacks within the United States; reducing the vulnerability to all natural and man-made hazards; and minimizing the damage and assisting in the recovery from any type of incident that occurs (Emergency Management Institute, 2008). The NRF provides the mechanism for a comprehensive coordinated response to all incidents of national significance (Emergency Management Institute, 2008). An incident of national significance is defined as: An actual or potential high-impact event that requires a coordinated and effective response by and appropriate combination of federal, state, local, tribal, nongovernmental, and/or private-sector entities in order to save lives and minimize damage, and provide the basis for long-term community recovery and mitigation activities (U.S. Department of Homeland Security, 2004, p.4). Under this provision, the Governor of a state responding to a domestic

emergency or national disaster may request federal assistance. If this request results in a Presidential declaration of an emergency or a major disaster, a series of federal responses will ensue, to include activation of the National Response Framework (NRF). During this time, a request for medical assistance may be made, thus mobilizing the National Disaster Medical System (NDMS) (Emergency Management Institute, 2008). The NRF guides the national response and the Emergency Support Function (ESF) annexes (DHS, 2008b). These ESF annexes group federal resources and capabilities into functional areas that are most frequently needed in a national response (DHS, 2008b). In all there are fifteen total ESF functions. NDMS falls under ESF #8, the Public Health and Medical Services Function. This function is controlled by the Secretary of Health and Human Services (DHHS) and allows for coordinated federal assistance to supplement state, tribal and local resources in response to a public health and medical disaster (DHS, 2008b).

National Disaster Medical System (NDMS)

In any disaster situation, the state and local governments have the primary responsibility to perform disaster response and it is up to each to decide how best to organize itself to deliver emergency services (Miskel, 2006). However, in the event that a disaster overwhelms local and state response capabilities, they can access the National Disaster Medical

System (NDMS) (Stopford, 2005). NDMS is the federally coordinated system that augments the nation's medical response capability. NDMS is currently designed to fulfill three main objectives, as stated in the National Disaster Medical System Federal Coordinating Center Guide dated 7 July 2006;

1. To provide supplemental health and medical assistance in domestic disasters at the request of state and local authorities.
2. To evacuate patients who cannot be cared for in the disaster area to designated locations elsewhere in the nation.
3. To provide a nationwide network of voluntary, pre-identified, non-federal acute care hospitals capable of providing definitive care for the victims of domestic disaster or military contingency that exceeds the medical care capabilities of the affected local, state, or federal medical system. (p. 6)

One of the ways that NDMS accomplishes its mission is through the use of several specialized teams that can be deployed to a disaster site usually within 72 hours. These teams are comprised of Disaster Medical Assistance Teams (DMATs) which consist of professional medical personnel capable of providing medical care following a disaster, Disaster Mortuary Operational Response Teams (DMORTs) which assist in the recovery,

identification and processing of deceased victims, Veterinary Medical Assistance Teams (VMATs) that provide emergency animal care in a disaster area, Medical Surgical Response Teams (MSRTs) that are trained and equipped to operate fully-functioning field surgical facilities, National Nurse and National Pharmacist Response Teams (NNRTs and NPRTs) to assist in mass medication dispensing and mass vaccination, and Joint Management Teams (JMTs) that generally deploy early to provide command and control, and to serve as a liaison to requesting authorities (Stopford, 2005). These teams are extremely important to the NDMS system: however, "the core component of the NDMS is the ability to move patients out of the disaster area and into waiting hospital beds throughout the United States" (Stopford, p. 55). This movement is accomplished through a system of Federal Coordinating Centers (FCC's) that are located in metropolitan areas of the United States. FCCs are responsible for the day-to-day coordination of planning and operations in one or more assigned geographic NDMS Patient Reception Areas (PRA) (Emergency Management Institute, 2008). Figure 1 below shows a depiction of all the current FCCs. In this figure the triangles represent FCCs ran by the Veteran's Administration (VA) and the squares represent FCCs ran by the military services. (Also see Appendix B for a complete list by name of current FCCs.)

Figure 1. Map of Current FCCs.

Note: Department of Health and Human Services, (2009). Department of Health and Human. Retrieved June 21, 2009, from Agency for Healthcare Research and Web site: http://www.ahrq.gov/prep/havbed/havbedfig2.htm

Federal Coordinating Centers

As a part of NDMS, Federal Coordinating Centers have three main responsibilities:

1. Recruit hospitals and maintain local non-federal hospital participation in the NDMS.
2. Coordinate exercise development and emergency plans with participating hospitals and other local authorities in order to develop patient reception, transportation, and communication plans.
3. During system activation, coordinate the reception and distribution of patients being evacuated to the area (Emergency Management Institute, 2008, p.5).

Each FCC is required to have at least one Patient Reception Area (PRA) to support patient reception and transport to local pre-identified acute care hospitals.

Patient Reception Area (PRA)

If an FCC is activated, the PRA is the location for all patient receiving, triage, and transport activity. The *NDMS Federal Coordinating System Guide* defines a PRA as: "a geographic location containing one or more air fields; adequate patient staging facilities; and adequate local patient transport assets to support patient reception and transport to local voluntary, pre-identified, non-federal, acute care hospitals capable of providing definitive care for victims of a domestic disaster, emergency, or military contingency" (NDMS, 2005, p. 6.). The PRA team triages and stages all patients and displaced citizens upon arrival, from that point patients are transported out to local NDMS medical facilities. PRA's are also set up to assist displaced citizens and are equipped to house any pets that may come in.

FCC Guidelines

Once a medical center has been declared an NDMS FCC, specific requirements must be met. Requirements are discussed in detail in the *National Disaster Medical System Federal Coordinating Center Guide* dated July 7, 2006. According to this

guide, each FCC must fulfill ten critical roles in order to be successful in the communities for which they have been assigned:

- Represent the NDMS
- Solicit/organize community participation
- Facilitate/maintain hospital enrollment
- Collect/report hospital bed availability data
- Coordinate patient reception area plans
- Coordinate training and exercises
- Coordinate local NDMS patient reception area plans
- Coordinate discharge and return of patients
- Coordinate financial management
- Facilitate communications (p. 15)

Represent the NDMS

The NDMS FCC represents the federal government in working with the civilian medical community as well as state and local authorities. Although all NDMS FCCs are coordinated by Military Treatment Facilities (MTFs) or VA Medical Centers (VAMCs), the role of the NDMS FCC transcends such affiliations (NDMS, 2006). The Commander or Director of the facility is the FCC Director and is ultimately responsible for this program. Day-to-day operations and readiness remain the responsibility of the FCC

Coordinator who is appointed or identified by the director (NDMS, 2006).

Solicit/Organize Community Participation

Although NDMS is federally coordinated the "system is built on local, regional, and state resources, emergency planning and structures" (NDMS, FCC Guide, 2006, p.15). It is extremely important for the FCC Coordinator to reach out and build relationships with all those regionally who may be involved in disaster response. Each FCC should have an NDMS Steering Committee that includes member representatives from the various institutions within the area of responsibility, such as: local, regional and state disaster emergency services agencies, hospitals (governmental and non-governmental), Emergency Medical Services (EMS), transportation, energy, academic communities, and military reserve communities.

Facilitate/Maintain Hospital Enrollment

One of the most important responsibilities of an FCC is to facilitate and maintain hospital enrollment. Through the use of Memorandum's of Understanding (MOUs), FCCs should seek relationships with regional non-federal hospitals that are willing to commit a certain number of beds in the event of a disaster (NDMS, 2006). When and if an FCC is activated, patients are triaged and transported to these facilities.

Collect/Report Hospital Bed Availability

Non-federal agreeing to an MOU with an FCC consent to a total minimum and maximum number of committed beds. Once an FCC has been activated, the FCC Coordinator contacts all participating facilities, collects immediate bed availability data, and reports to GPMRC (NDMS, 2006). GPMRC then knows how many evacuees/patients a certain facility is able to handle.

Coordinate Training and Exercises

As the regional Command and Control Center, each FCC is responsible for ensuring that the "FCC staff, as well as applicable federal, state and local government and private sector personnel receive appropriate training in the operation of the FCC and PRA" (NDMS, 2006, p.17). FCC staff and participants should receive detailed annual training regarding specific duties, and a full-scale patient reception exercise should be conducted at least once every three years (NDMS, 2006).

Coordinate Patient Reception Area Plans

The key to success for any FCC is to have a thorough plan for the set-up and operation of a PRA. The PRA plan should be tailored to the community or region it serves and, when possible should align with similar mass casualty incident plans that may already be in place. Creation of a PRA plan should be

accomplished with the help and support of local medical and emergency planning communities (NDMS, 2006).

Coordinate Local Patient Reception Operations

Upon notification of activation, the FCC Coordinator ensures that participants are informed of the activation and prepared for patients. In the event of a full activation, the team begins setting up the PRA. Local EMS services must be on-site and prepared to transport patients upon arrival to the PRA. It is the responsibility of the FCC Director to ensure that "proper receiving, sorting, triage, staging, transportation and hospitalization of arriving patients occurs efficiently" (NDMS, 2006, p.12). Along with medical care proper administrative services must be provided for accurate patient control and accounting. The FCC Coordinator must ensure that there is an operational tracking system in place in order to account for the location and status of all NDMS patients within the region (NDMS, 2006).

Coordinate Discharge and Return of Patients

On occasion, the FCC may be asked to assist in managing the discharge and transportation of patients back to a point of origin or other location. Patients in need of continued care are to be transported as soon as suitable care is available. An accepting physician must be identified prior to transporting these patients. Patients who no longer need medical attention

may be provided commercial transportation procured through government sources. Should an NDMS patient expire during treatment, the FCC assists in the return of remains to the custody of the family or other legally responsible person (NDMS, 2006).

Coordinate Financial Management

Three classifications of expenses are covered in the FCC guide:

- PRA Pre-activation expenses
- PRA activation expenses
- PRA operational expenses

FCCs are required to assist departments with budgeting and coordinating fiscal information to support training, equipment, and exercises (NDMS, 2006).

Facilitate Communications

The FCC Coordinator is responsible for ensuring that communication systems and procedures are in place to support the patient reception and distribution operations. Communication plans must include a back-up system in the event that the primary system becomes disabled (NDMS, 2006). A comprehensive communications system is key to determining an FCC's ability to adequately move and track patients.

Lessons Learned from Past Events

In order to adequately assess the readiness of NMCP as an FCC based on the full-scale exercise, a comparison against a real world exercise where FCCs were activated and received patients was needed. The document used to provide this comparison was the *NDMS After Action Review (AAR) Report on Patient Movement and Definitive Care Operations in support of Hurricanes Katrina and Rita (Feeser, 2006)*. This report included review from all FCCs activated during hurricanes Katrina and Rita. The Executive Summary of this document states that "hurricanes Katrina and Rita resulted in the first large-scale use of the patient movement and definitive care components of the NDMS" (Feeser, 2006, p.1). During hurricane Katrina, roughly 1,900 evacuees were transported from New Orleans to nine FCC's. and roughly 900 hurricane Rita evacuees were transported from south Texas to ten FCC PRAs (Feeser, 2006). In the compiled AAR of activated facilities, the strengths and weaknesses were identified as accomplishments and issues. The accomplishments noted were as follows:

- Effective inter-agency communication.
- NDMS inpatient bed availability reporting was quickly accomplished.
- First aero-medical missions were executed within 24 hours of Katrina mission assignment.

- Effective logistics; which allowed for 1,900 NDMS evacuees to be transported to nine FCC's in five days using approximately 70 areo-medical missions during hurricane Katrina and 900 NDMS evacuees to be transported to ten FCC's in two days using 20 aero-medical missions.
- The integration of FCC plans, exercises and operations into local infrastructures facilitated successful patient reception operations.

The issues noted in this AAR included:

- Activation: Mission assignments (MA) were not always communicated in a timely manner. This led to untimely notification of some of the FCC's that they were being activated. In one case two VA FCC's were notified to activate two days after a mission assignment was issued.
- Management of Patient Evacuation Points: Patient movement operations out of the disaster area, particularly at New Orleans Airport, were initially under-resourced and chaotic.
- Patient Administration: Medical record keeping, patient movement requests, patient accounting and tracking were meager throughout the operations.
- Integration of Evacuation Operations: There was no single NDMS patient movement manager. Air and ground evacuation operations conducted by the United States Transportation

Command (TRANSCOM), the United States Coast Guard (USCG), the Navy, the National Guard, and the States and other authorities were not well coordinated. This caused some FCC's to get little or no warning of incoming evacuees and also caused some to activate only to sit idle for many hours.

- FCC Patient Reception Area Operations: Patient reception team resources were limited.
- Integration of Medical and Mass Care: Metropolitan reception areas were not prepared to efficiently manage the full range and large volume of victims' medical and sheltering needs.
- Reimbursements: There was no mechanism to ensure reimbursement of NDMS hospitals, nursing homes and others.
- Repatriation: There was no mechanism to repatriate evacuees who required en route medical care and/or continuing medical care.

Although this event was an actual occurrence, not every accomplishment and issue was applicable for comparison to NMCP's FSE. However, everything in the document was considered a learning opportunity and would be used as a planning guide for improvement.

Exercise Series Overview

In keeping with the standards and regulations set forth

in the NDMS FCC Guide, Naval Medical Center Portsmouth (NMCP) and the Hampton Roads Metropolitan Medical Response System (HRMMRS), along with the Eastern Region of Virginia Hospital Emergency Preparedness Coordinating Group, conducted a two-part series of exercises named National Disaster Medical System Federal Coordinating Center Patient Reception Exercises (NDMS FCC PRA Exercises) (AAR/IP, 2009). This exercise series consisted of a table-top exercise (TTX) conducted on September 10, 2008 and a full-scale exercise (FSE) on October 17 & 18, 2008.

The exercise series served two major purposes. The first was to evaluate the interoperability of NMCP, participating civilian NDMS hospitals, and the emergency medical services system during an activation of the FCC/PRA. The secondary purpose was to establish and further solidify relationships among all exercise participants and their respective organizations whose participation would be required in an actual event (AAR/IP, 2009).

The exercise series was based upon the National Planning Scenario: National Disaster - Major Earthquake, as outlined in The National Planning Scenario, Version 21.3, dated March 2006. In the scenario an earthquake occurred in Memphis, TN measuring 8.0 on the Richter scale. These exercises allowed players to interact and share their knowledge and insight regarding the

availability of resources, standard operating procedures, intra-hospital communications, and other actions that would be taken in the event of an incident such as the one depicted in the scenario. Participants in the table-top exercise (TTX) were engaged in the topic and the discussions that the scenario created, while players in the full-scale exercise (FSE) were engaged in exercise play and communications that simulated real-world actions. Participant discussions and interaction revolved around operations and planning, with an emphasis on decision making, coordination, situational assessment, identification of available resources, evacuation, traffic flow, patient movement, tracking and communications during this multi-agency response (AAR/IP, 2009). The exercise series included roughly 36 participating agencies/organizations and over 300 individual participants. Figure 2 below provides a quick visual reference of the exercise series. (Appendix C shows a breakdown of all exercise participants).

Figure 2: Layout of the Exercise Series

Exercise Type	**TTX**	**FSE**
Duration	3 hours	2 hours & 5 hours respectively
Date	September 10, 2008	October 17-18, 2008
Location(s)	Tidewater EMS, Norfolk, VA	Naval Station Norfolk, Chambers Field
Sponsors	HRMMRS	HRMMRS
Jurisdiction/Entity Receiving Exercise	NMCP	NMCP
Focus	Response and Recovery	
Exercise Type	**TTX**	**FSE**
Classification	Public Safety Sensitive	
Scenario	National Disaster - Major Earthquake (National Planning Scenario, Version 21.3 of March 2006) An Earthquake occurred in Memphis, TN measuring 8.0 on the Richter scale with numerous significant aftershocks.	

Note: Taken from AAR/IP 2009.

Exercise Goals

Although this exercise was designed to be a no-fault learning experience, specific objectives were identified. The objectives selected by the NDMS FCC Patient Reception Exercise Series Planning Team and focused on evaluating emergency response procedures, identifying areas for improvement, and achieving a collaborative attitude (AAR/IP, 2009). The objectives set included:

1. Establish or refresh partnerships with all local agencies in the community whose participation would be required in an actual event.

2. Evaluate the ability of the FCC to respond to an NDMS alert to include communications with participating civilian NDMS hospitals.
3. Evaluate Patient Reception Team (PRT) response time and ability to set up the patient control area to receive patients.
4. Evaluate the ability of participating civilian NDMS hospitals to report and update bed status data to the FCC upon their request and in a timely manner using the hospital WebEOC system.
5. Evaluate the PRT's ability to safely and effectively receive, triage and treat patients.
6. Evaluate the NMCP Patient Administration Teams's ability to effectively track patients and their possessions from reception to discharge at NMCP and participating NDMS hospitals using JPATS, WebEOC, and other means of communication. This objective includes tracking of evacuees and other non-injured personnel who present at the PRA.
7. Evaluate participating civilian NDMS hospitals' ability to effectively receive, track and report the status of NDMS patients in their care (from receipt to discharge) to the FCC in a timely manner, using the JPATS, WebEOC, and other means of communication.

8. Evaluate NMCP's ability to receive and manage an influx of casualties from PRA in accordance with NMCP Casualty Plan.
9. Evaluate the effectiveness of the PRA incident command structure and its ability to coordinate the efforts of both civilian and military agencies by establishing a unified command.
10. Evaluate ability of individual civilian NDMS hospitals to receive and manage an influx of casualties from the FCC's PRA in accordance with their respective hospital Emergency Operations Plan.

Evaluation Process

The evaluation process used in this exercise series was developed by the United States DHS, Office of Grants and Training. This evaluation process was part of the HSEEP. For the TTX, personnel from the planning committee were selected to assist with the evaluation of this exercise. For the FSE, just-in-time training was provided for evaluators in order to ensure that HSEEP evaluation methodology was used for this exercise (AAR/IP, 2009). Immediately following each exercise, participants expressed their first impressions during a hotwash. Hospital players from the FSE were afforded the same opportunity in a Hospital After-Action Conference on November 19, 2008. Additionally, participants from both exercises were given evaluation forms in which they were to provide written feedback

on the exercise (AAR/IP, 2009). Appendix F contains the feedback form distributed to FSE participants.

After-Action Report

Upon completion of the exercise series, a consolidated After-Action Report/Improvement plan was created to highlight the major strengths, areas of improvement, recommendations, and a consolidated improvement plan. Below is a list of the exercise objectives, coordinating strengths and areas for improvement.

1. Establish or refresh partnerships with all local agencies in the community whose participation would be required in an actual event.

Objective one was met during the exercise series with a major strength being the fact that this exercise gave NMCP the opportunity to further build on the relationships that it had with various NDMS organizations whose participation would be required during an actual event. Building on current relationships and reaching out to form new ones was an important role of the FCC. Issues or weaknesses for this objective included the fact that five of the regional NDMS medical facilities did not take part in the exercise series. As this process was considered one that must be planned and practiced long before it is ever required, this was a huge missed opportunity for training and relationship building. However, although this was considered a weakness, lines of communication

were kept open with non-participating facilities. These facilities would still benefit from the findings and lessons learned obtained during the drill.

2. Evaluate the ability of the FCC to respond to an NDMS alert to include communications with participating civilian NDMS hospitals.

Objective two was successful due in part to the use of WebEOC. WebEOC is an Internet-based emergency management information system designed to deliver emergency information to any size Emergency Operations Center or exchange information between multiple centers, hospitals, and first responders or agencies in the field (AAR/IP, 2009). Upon alert for this drill, 66% of civilian hospitals participating in the exercise updated their bed status within two hours of receiving the alert notification. This system was successful because it allowed the FCC along with all participating civilian hospitals to use WebEOC to transmit bed status and patient data in real time. Communication was established and maintained throughout the drill. One weakness noted under this objective was that not all participating hospitals were listed on the NDMS board on WebEOC and were therefore unable to respond. When a second bed status request was sent, only eight of the 12 hospitals participating in the drill updated their status within two hours. Of these respondents, one hospital updated prematurely, two hospitals

updated more than two hours later, and one hospital failed to report at all.

3. Evaluate Patient Reception Team (PRT) response time and ability to set up the patient control area to receive patients.

This objective was met in that the PRT completed set-up of the PRA and was able to receive patients. However, the set-up of the PRA was done prior to the drill's initial activation. As a result, there was no evaluation of the response time from initial activation to complete set-up. There are two reasons for why this done this way: (1) this exercise series was designed to be a learning experience and the leadership felt it was important for the players to understand the layout of the PRA prior to being evaluated regarding set-up; (2) prior to this drill there was no standardized SOP configuration for how the PRA should be set-up, and previous configurations from other TTX's did not appear functional. For this exercise series, the PRA was set-up prior to notification of activation and the team set up the area per the wishes of the Senior Medical Officer (SMO) and the Operations Section Chief.

4. Evaluate the ability of participating civilian NDMS hospitals to report and update bed status data to the FCC upon their request and in a timely manner using the hospital WebEOC system.

Objective four was met and could easily be combined with objective two. WebEOC was the primary means of communication for reporting bed status updates. The strength in this objective was that during this drill roughly 70% of the participating civilian NDMS hospitals reported bed status within the allotted 2 hours from request. Weaknesses included IT problems that impeded hospital reporting. Three facilities did not reply at all.

5. Evaluate the PRT's ability to safely and effectively receive, triage and treat patients.

Objective five was met. Strengths were that the PRT was able to safely receive, triage, treat and transport 30 litter patients, 40 ambulatory patients, and nine displaced citizens. Yet, some weaknesses and issues were noted in this objective as well. One issue was that the configuration of the PRA, specifically the entryway from the flight line, made it hard to get litter patients in the door. A second issue noted was that there were not enough litter bearers, and two people carrying each litter was not enough. In order to be more efficient and safe, there should have been four litter bearers to each litter.

6. Evaluate the NMCP Patient Administration Teams's ability to effectively track patients and their possessions from reception to discharge at NMCP and participating NDMS hospitals using JPATS, WebEOC, and other means of

communication. This objective includes tracking of evacuees and other non-injured personnel who present at the PRA.

7. Evaluate participating civilian NDMS hospitals' ability to effectively receive, track and report the status of NDMS patients in their care (from receipt to discharge) to the FCC in a timely manner, using the JPATS, WebEOC, and other means of communication.

Objectives six and seven were combined and both were extremely successful. During this exercise series, NMCP and the other participating organizations were the first to use the Department of Health and Human Services (DHHS) patient tracking tool, Joint Patient Assessment and Tracking System (JPATS). JPATS is a Web-based application that tracks the health, information, status, and locations of individuals treated and evacuated from a disaster area (AAR/IP, 2009). The system was used by the FCC as well as participating civilian NDMS hospitals which allowed for smooth communication and tracking of patients between both civilian and military entities. Some areas for improvement noted in this objective were that JPATS was not designed to track a patient through a continuum of care from entry into the NDMS system through discharge, and upon return to their home of record or other designated location. Also, it was noted that the JPATS system was not designed to track uninjured victims or evacuees although it could be used to do so.

8. Evaluate NMCP's ability to receive and manage an influx of casualties from PRA in accordance with NMCP Casualty Plan.

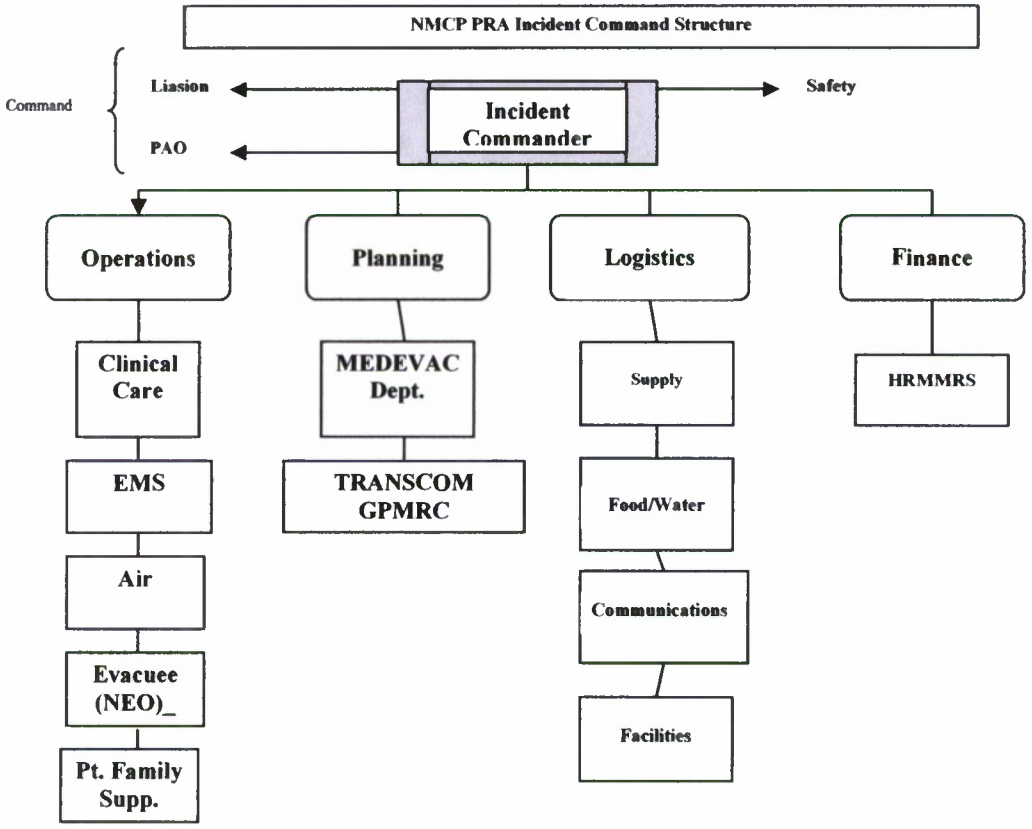
In accordance with NMCP's Casualty Plan, objective eight was met in that NMCP managed to triage and treat 25 casualties that arrived from the PRA. The PRA included two ambulance buses that were strictly designated to transport patients to the NMCP Emergency Room (ER). Weaknesses and areas for improvement under this objective resulted mainly from poor communication. NMCP ER was not notified that patients had left the PRA and were en-route; therefore, they were not as prepared to receive casualties. This situation started because no one in the ER was given sole responsibility to watch and update JPATS.

9. Evaluate the effectiveness of the PRA incident command structure and its ability to coordinate the efforts of both civilian and military agencies by establishing a unified command.

Objective nine was met in that the ICS that was designed and used for this exercise series proved to be successful. The Incident Commander was on-scene at the NMCP Emergency Operations Center (EOC) and had direct communication with Operational Command Chief who was located at the PRA. Figure 3: Below show the layout of the NMCP ICS. Weaknesses and areas for improvement noted under this objective included some participants were unsure of the Incident Commander's location, who it was, and how

to contact them if needed. In the event of an actual NDMS alert, it is important for all participants to understand the layout of the unified command and who the Incident Commander is.

Figure 3: Table of NMCP ICS (2009)



Note: Adapted from hand-written document from CDR. Mike Criqui, NMCP Emergency Management Officer.

10. Evaluate ability of individual civilian NDMS hospitals to receive and manage an influx of casualties from the FCC's PRA in accordance with their respective hospital Emergency Operations Plan.

Objective ten was met in that the ability of the PRA to communicate with participating NDMS civilian hospitals regarding activation and transportation of patients was evaluated. An assessment of how individual hospitals dealt with the influx of casualties was not specifically addressed in the AAR. In a phone conversation with Judith Shuck, Mass Casualty Preparedness Coordinator, HRMMRS, said that "it was hard to evaluate from a deck-plate level how each facility managed the influx of casualties because each one managed it differently." Rather this objective assessed communication abilities between civilian hospitals through JPATS (Judith Shuck, personal communication, June 24, 2009). Weaknesses stemmed primarily from the use of JPATS. Prior to this exercise series, civilian facilities had never seen or heard of JPATS and received only a short impromptu lesson on how to work the system. What shocked many of the civilian hospitals was the time it took from notification of activation until the first patient came through the doors. Many of the hospitals expected to receive patients within minutes of activation, and did not properly plan for PRA processing and transport time. Another weakness was a glitch in the JPATS

system where some hospitals were able to receive and update a patient's status before the PRA transferred the patient.

Improvement Plan

Exercise evaluators at both the TTX and FSE observed and documented the current capability of the NMCP FCC and participating NDMS hospitals to respond to a PRA activation for an incident involving the influx of casualties as a result of a catastrophe of national significance (AAR/IP, 2009). Upon completion of this exercise, an improvement plan was established based on the identified operational strengths and weaknesses. An Improvement Plan Matrix was developed that listed 143 questions or issues that needed to be addressed. Although all issues were important, this paper will address only those issues that directly related to the ten exercise objectives.

The first step in answering and addressing the issues came on November 6, 2008, at the meeting of the HRMMRS Healthcare Committee where the FCC representative proposed the formation of a standing NDMS Steering Committee. This committee would be responsible for the oversight and administration of the Improvement Plan. On February 5, 2009, the proposition to form the NDMS Steering Committee was approved, and they began addressing the issues listed in the Improvement Plan Matrix.

1. Establish or refresh partnerships with all local agencies in the community whose participation would

be required in an actual event.

Improving objective one will be achieved in a number of ways, primarily through increased communication with participating NDMS civilian hospitals as the NDMS Steering Committee work through the Improvement Matrix. This exercise series proved to be a positive learning experience and, as all facilities work together to modify their plans, it will only strengthen the partnerships already formed and bolster a more effective response in the event of an incident. Another way NMCP will strengthen its partnerships with NDMS civilian hospitals is through the use of JPATS. During the exercise, all of the participating facilities were impressed with the capabilities of JPATS and have requested that DHHS allow JPATS to be the primary patient tracking system in the Hampton Roads region. If this request is approved, increased training would allow for more face time and stronger relationships with partnering facilities.

2. Evaluate the ability of the FCC to respond to an NDMS alert to include communications with participating civilian NDMS hospitals.

Improvement for objective two will come primarily through increased education on what each hospitals responsibility is with regards to communication. The weaknesses noted under objective two dealt mainly with the un-timely submissions of bed status and a few of the facilities did not get added to the

WebEOC NDMS Board. Improvement for the two weaknesses will come through the revised Concept of Operations (CONOPS) which will be the NMCP Instruction 3440.1E. This revised CONOPS would detail the role of participating facilities from alert through deactivation. This allows for each facility to understand their role during an actual event and would leave no question as to what communication will be needed and will give a suggested time limit for that information to be received.

3. Evaluate Patient Reception Team (PRT) response time and ability to set up the patient control area to receive patients.

The improvement for objective three came from the ability of the PRA staff to get a configuration that allowed for the effective and efficient triage, treatment, and transport of patients, as well as allowing them to see where improvements could be made. From this point on the configuration can be improved on and a design documented in the SOP.

4. Evaluate the ability of participating civilian NDMS hospitals to report and update bed status data to the FCC upon their request and in a timely manner using the hospital WebEOC system.

Improvements for objective four will be addressed the same as in objective two. WebEOC training will be a continuous and on-going process. Also ensuring that each facility has a copy of

the CONOPS outlining the reporting and communication responsibilities of each hospital will ensure effective communication between the PRA and participating civilian hospitals.

5. Evaluate the PRT's ability to safely and effectively receive, triage and treat patients.

Improvements for objective five will come from the PRT having the ability to review the configuration of the PRA and understanding how the layout can be changed in order to make it easier to get patients into the building. For example, movement routes may need to changed in order to more efficiently and safely transport patients from the flight line into the PRA. As for the number of litter bearers, that issue can be addressed in the revised CONOPS, and requests may need to be made in order to increase the number of on-hand litter bearers.

6. Evaluate the NMCP Patient Administration Teams's ability to effectively track patients and their possessions from reception to discharge at NMCP and participating NDMS hospitals using JPATS, WebEOC, and other means of communication. This objective includes tracking of evacuees and other non-injured personnel who present at the PRA.
7. Evaluate participating civilian NDMS hospitals' ability to effectively receive, track and report the status of NDMS patients in their care (from receipt to discharge) to the

FCC in a timely manner, using the JPATS, WebEOC, and other means of communication.

Improvements for objectives six and seven will have to be handled by DHHS since the issues and weaknesses noted under these objectives dealt mainly with programming concerns with JPATS. Since this exercise series was the first full-scale test of JPATS, an evaluation listing strengths, weaknesses, and software change proposals was sent to DHHS. All information sent to DHHS covers the improvements needed to address objectives six and seven. Improvements for the WebEOC system have already been reviewed in this section. It is also important to note, two communication tools existed that were not utilized during this exercise: the 700 MHz VHF radio notification system and the Regional Hospital Coordination Center (RHCC) (AAR/IP, 2009). Both systems may be used for alert/activation and can be used to request information. In the event of a failure of WebEOC and JPATS systems, either tool could be used.

8. Evaluate NMCP's ability to receive and manage an influx of casualties from PRA in accordance with NMCP Casualty Plan.

Improvements for objective eight will come primarily through improved communication and education with JPATS and WebEOC. The issues noted under objective eight concerned the fact that the Emergency Department (ED) staff were not aware that patients from the PRA were en route to their location.

Having a staff member trained in systems use and assigned sole responsibility of watching and updating these systems will reduce similar problems in the future.

9. Evaluate the effectiveness of the PRA incident command structure and its ability to coordinate the efforts of both civilian and military agencies by establishing a unified command.

Improvements for objective nine will be addressed via the revision and dissemination of the NMCPINST 3440.1E. This revised CONOPS will contain a diagram like the one in *Figure 3*, depicting the layout of the unified command. Future iterations should also list contact information that may be used in the event of an actual incident. The best possible improvement would be to include a dedicated line for the Incident Commander within the NMCP EOC and to have that number published in the CONOPS.

10. Evaluate ability of individual civilian NDMS hospitals to receive and manage an influx of casualties from the FCC's PRA in accordance with their respective hospital Emergency Operations Plan.

While this objective was not directly evaluated improvements can be made. One such improvement is to conduct on-going training on WebEOC and JPATS. Another includes familiarization with the CONOPS and understanding the facilities role in the event of an actual incident.

Conclusion

In looking at the overall readiness of NMCP to be activated under NDMS, it is important to take the lessons learned during this exercise series and compare it to those learned during an actual NDMS event. As previously discussed, a consolidated After Action Review Report (AAR) was used. A consolidated AAR from all NDMS DOD and VA facilities activated during hurricanes Katrina and Rita was provided by Mr. Michael Feeser, CEM, Emergency Manager, Department of Veterans Affairs for use in this project.

When comparing the two AARs, similarities between events existed. A number of accomplishments or strengths noted were very similar and some of the weaknesses or issues were very similar as well. Under accomplishments or strengths, effective communication seemed to be the top linking factor. Both AAR's list successful communication between agencies and partners as strength. In an actual event, the key to success will lie with effective and efficient communication and it appears that NMCP is on the right track in that area. Another strength shared by both AAR's was the timely reporting of bed availability upon notification. Although there were a few problems during NMCP's exercise, overall, the bed availability came was returned quickly upon request. Noted as strength on the Katrina-Rita AAR was that "the integration of FCC plans, exercises and operations into local infrastructure facilitated successful patient

reception operations" (Feeser, 2006, p.4). This was discussed as an area for improvement in the NMCP AAR. Each facility must know how the FCC will operate and understand their role in the process. NMCP will address this issue through the revision of the CONOPS, which will then be provided to all NDMS partners for incorporation into their own action plans.

In reviewing weaknesses or issues in both AARs it is important to note that some of the issues listed in the AAR from Katrina and Rita were not faced by NMCP simply because it was an exercise. For example mission assignments were not communicated in a timely manner. In an actual event, the earlier an FCC is notified of activation the better. During the exercise, NMCP did not have to address this. However, the one issue or weakness noted for both incidents was that patient reception team resources were limited and not funded prior to activation. In an actual event, such as those during Katrina and Rita, various medical supplies and services, such as translators may be needed. The recommendation in both AARs is that a standard Authorized Medical Allowance List (AMAL) for the PRA and FCC's should be created and funded by the DHS to ensure supplies availability in the event of activation. Also, within the NMCP AAR, a section on funding is included because, as a DOD FCC, there is no separate line of funding given the command to use for training. This exercise series was funded by the HRMMRS who

partners with NMCP and does receive funding for NDMS training. However, it was noted that unless NMCP is given funding to support patient evacuation exercises, current gains in system improvement will be lost. It was also noted that funding to develop and maintain a multi-year FCC exercise plan would result in continued improvement in effectively managing the unique and complex response priorities that accompany an NDMS activation (AAR/IP, 2009). An additional weakness noted in the Katrina-Rita AAR was that patient movement, accounting, and tracking were poorly managed throughout operations, and it was recommended that a system be designed to assist the PRAs with this process. The exercise series conducted by NMCP proved the use of JPATS could improve patient management. The DHHS system made the tracking and accountability of patients easy to do for the PRA. When users are trained regarding use of the system, the stress that comes with tracking and accounting for patients should be alleviated.

Through its partnership with HRMMRS and the partnerships with the regional hospitals, NMCP is without a doubt a leader in FCC readiness. Overall, NMCP achieved all exercise series objectives. The exercise proved to be an effective learning experience for all of the organizations involved. Most importantly, it gave the agencies an opportunity to evaluate capabilities in response to an activation of the FCC and PRA.

Through this exercise participants were able to verify, identify, and document the current status of response capability and areas needing improvement. Emergency management is a process that must be planned and practiced long before implementation is ever required. The extensive documentation throughout this exercise series will allow for improvement to be made in all areas of the FCC. Implementation of the NDMS Steering Committee will ensure that all issues listed on the Improvement Matrix will be addressed and will positively influence the response to future incidents. At this point funding is going to be the biggest obstacle that NMCP is will face. In order to continue and further the system improvement gains brought on by this exercise a line of funding must be provided. If a line of funding cannot be given then, the DHS and the DHHS should consider contracting with a civilian agency to conduct NDMS drill for FCC's on a multi-year basis. This will allow the FCC's to stay current as well as afford them the opportunity to practice with their partnering agencies. Based on this exercise it appears that NMCP is definitely prepared to be activated and through their partnerships will only increase their readiness over the next few years.

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Appendix A: Definition of Terms and Acronyms

ASPHEP- Assistant Secretary for Public Health Emergency Preparedness

CONOPS- Concept of Operations

DHS- Department of Homeland Security

DMATs- Disaster Medical Assistance Teams

DOD- Department of Defense

EMO- Emergency Management Officer. Person responsible at a Military Treatment Facility for the Emergency Management Program.

ESF#8- Emergency Support Function #8

FCC- Federal Coordinating Center

FEMA- Federal Emergency Management Agency

HHS- Health and Human Services

HSPD5- Homeland Security Presidential Directive 5

JPATS- Joint Patient Assessment and Tracking System

MA- Mission Assignment

MHS- Military Healthcare System

MOA- Memorandum of Agreement

MTF- Military Treatment Facility

NDMS- National Disaster Medical System

NMCP- Naval Medical center Portsmouth

NRF- National Response Framework

NRP- National Response Plan

PRA- Patient Reception Area

PRS- Patient Reception Sites

PRT- Patient Reception Team

SMO- Senior Medical Officer

SOP- Standard Operating Procedures

TRANSCOM- United States Transportation Command

VA- Veteran's Affairs

WebEOC- an internet based emergency management information system designed to deliver emergency information to any size Emergency Operations Center or exchange information between multiple centers, hospitals, and first responders or agencies in the field

Appendix B: Listing of Current FCCs

Federal Region	State	Primary Receiving Center	Affiliation	Patient Reception Area
1	CT	VA Conn HCS, W Haven Campus (CT)	VA	Westhaven
1	MA	VA Boston HCS, W Roxbury Campus (MA)	VA	Boston
1	MA	Northampton VAMC (MA)	VA	Northampton
1	RI	Providence VAMC (RI)	VA	Providence
2	NJ	VA NJ HCS, East Orange Campus (NJ)	VA	East Orange / Lyons
2	NY	VAMC Stratton (Albany, NY)	VA	Albany
2	NY	VA West NY HCS (Buffalo, NY)	VA	Buffalo
2	NY	Syracuse VAMC (NY)	VA	Syracuse
2	NY	VA NY Harbor HCS, Brooklyn Campus (NY)	VA	NYC minus Bronx, Long Island
2	NY	VA Hudson Valley HCS, Castle Point Campus (NY)	VA	Mid-Hudson, north NYC
4	PR	San Juan VAMC (PR)	VA	San Juan
3	DE	VAMC&ROC Wilmington (DE)	VA	Wilmington
3	MD	VA Maryland HCS, Baltimore VAMC (MD)	VA	Baltimore
3	MD	National Naval Med Ctr Bethesda	Navy	NNMC, DC & Maryland
3	MD	79 Med Gp Andrews AFB	Air Force	N Virginia
3	PA	Philadelphia VAMC (PA)	VA	Philadelphia
3	PA	VA Pittsburgh HCS, University Dr Div (PA)	VA	Pittsburgh
3	VA	McGuire VAMC (Richmond, VA)	VA	Richmond
3	VA	Naval Med Ctr Portsmouth (Norfolk)	Navy	Norfolk & Portsmouth
4	AL	Birmingham VAMC (AL)	VA	Birmingham
4	FL	Haley VAMC (Tampa, FL)	VA	Tampa
4	FL	Miami VAMC (FL)	VA	Miami
4	FL	Naval Hosp Jacksonville (Jacksonville FL)	Navy	Jacksonville FL
4	FL	Naval Hospital Pensacola	Navy	Pensacola
4	GA	Atlanta VAMC (Decatur, GA)	VA	Atlanta
4	GA	Eisenhower Army Med Ctr (Augusta)	Army	Augusta
4	KY	Lexington VAMC (KY)	VA	Lexington
4	KY	Louisville VAMC (KY)	VA	Louisville
4	MS	81 AMDS Keesler AFB (Mobile)	Air Force	Mobile
4	MS	Montgomery VAMC (Jackson, MS)	VA	Jackson
4	NC	Hefner VAMC (Salisbury, NC)	VA	Salisbury, Charlotte, Winston - Salem
4	NC	Durham VAMC (NC)	VA	Raleigh - Durham
4	SC	Johnson VAMC (Charleston, SC)	VA	Charleston
4	SC	Moncrief Army Hospital (Ft Jackson)	Army	Columbia SC
4	TN	VAMC Memphis (TN)	VA	Memphis
4	TN	Tenn Valley HCS, Nashville Campus (TN)	VA	Nashville
5	IL	Hines VAH (IL)	VA	Chicago
7	MO	St Louis VAMC (St Louis, MO)	VA	St Louis

Federal Region	State	Primary Receiving Center	Affiliation	Patient Reception Area
5	IN	Roudebush VAMC (Indianapolis, IN)	VA	Indianapolis
5	MI	Dingell VAMC (Detroit, MI)	VA	Detroit
5	MN	Minneapolis VAMC (MN)	VA	Minneapolis
5	OH	Cincinnati VAMC (OH)	VA	Cincinnati
5	OH	Stokes VAMC (Cleveland, OH)	VA	Cleveland
5	OH	88 Med Gp Wright_Pat AFB (Dayton)	Air Force	Dayton
5	WI	Zablocki VAMC (Milwaukee, WI)	VA	Milwaukee
6	AR	VA C Ark HCS, Towbin Center (Little Rock, AR)	VA	Little Rock
6	LA	Brooks VAMC (Shreveport, LA)	VA	Shreveport
6	NM	New Mexico VA HCS (Albuquerque, NM)	VA	Albuquerque
6	OK	Oklahoma City VAMC (OK)	VA	Oklahoma City
6	TX	DeBakey VAMC (Houston, TX)	VA	Houston
6	TX	N Texas HCS, Dallas VAMC (TX)	VA	Dallas
6	TX	Beaumont Army Med Ctr (Ft Bliss)	Army	El Paso
6	TX	Brooke Army Med Ctr (Ft Sam Houston)	Army	San Antonio
7	IA	VA Central Iowa HCS, Des Moines Div (IA)	VA	Des Moines
7	NE	VA Nebraska / W Iowa HCS, Omaha Div (NE)	VA	Omaha
7	KS	Dole VAM&ROC (Wichita, KS)	VA	Wichita
7	MO	Kansas City VAMC (MO)	VA	Kansas City
8	CO	VA E Colorado HCS (Denver, CO)	VA	Denver
8	UT	VA Salt Lake City HCS (UT)	VA	Salt Lake City
9	AZ	Hayden VAMC (Phoenix, AZ)	VA	Phoenix
9	AZ	S Arizona VA HCS (Tucson, AZ)	VA	Tucson
9	CA	San Francisco VAMC (CA)	VA	San Francisco
9	CA	VA Long Beach HCS (CA)	VA	Long Beach, Orange County
9	CA	VA Loma Linda HCS (CA)	VA	Loma Linda
9	CA	VA Greater Los Angeles HCS (CA)	VA	Los Angeles
9	CA	60 Med Gp Travis AFB (Sacramento)	Air Force	Sacramento
9	CA	Naval Medical Center San Diego	Navy	San Diego
9	HI	Tripler Army Med Ctr (Honolulu)	Army	
9	NV	VA S Nevada HCS - O'Callahan Fed Hosp (Las Vegas)	VA	Las Vegas
10	OR	Portland VAMC (OR)	VA	Portland
10	WA	Madigan Army Med Ctr (Ft Lewis)	Army	Seattle
10	ID	Boise VAMC (ID)	VA	Boise

Appendix C: Listing of Exercise Series Participants

Participating Agency	Exercise(s) Participated In	
	TTX	FSE
Federal Agencies:		
Department of Health & Human Services		X
Department of Defense:		
Navy-Air Mobility Command Terminal, Norfolk, Va	X	X
CNRMA Police Department	X	X
1st Medical Group, Langley Air Force Base, Hampton VA		X
Fleet Logistics Support Squadron (VR-53), Andrews AFB		X
Navy Regional Fire-Mid Atlantic	X	X
US Army Veterinary Services, Naval Station, Norfolk, VA	X	X
State Agencies:		
Commonwealth Youth ChalleNGe	X	X
Regional Agencies or Organizations:		
HRMMRS	X	X
Tidewater Emergency Medical Serivces Council	X	X
ERVHEPCG	X	X
Local Jurisdictions:		
Norfolk Fire and Rescue		X
Hospitals & Healthcare Organizations:		
Bon Secours Mary Immaculate Hospital		X
Bon Secours DePaul Medical Center		X
Bon Secours Maryview Medical Center		X
Chesapeake Regional Medical Center		X
Children's Hospital of the King's Daughters		X
Eastern State Hospital		X
Naval Medical Center Portsmouth	X	X
Rappahannock General Hospital		X
Riverside Regional Hospital	NA	X[1]
Riverside Tappahannock Hospital		X
Riverside Walter Reed Hospital		X
Sentara Bayside Hospital	NA	NA
Sentara Careplex Hospital		X[1]
Sentara Leigh Memorial Hospital		X
Sentara Norfolk General Hospital		X
Sentara Obici Hospital		X[1]
Sentara Virginia Beach General Hospital	NA	NA
Sentara Williamsburg Regional Medical Center		X
Shore Memorial Hospital	NA	NA
Southampton Memorial Hospital	NA	NA
Southside Regional Health Coordination Center	X	X
Virginia Beach Psychiatric Center	NA	NA
Non-Governmental/Volunteer Organizations:		
American Red Cross, Southeastern Virginia Chapter		X

NOTES:
[1]- Indicates that the facility was not formally participating in the exercise, but responded to the request for bed status data via WebEOC.
NA- Indicates an NDMS hospital that did not participate in the exercise.

Appendix D: Participants

Tabletop Exercise Number of Participants	
Attendees	46
Facilitators	2
Observers	1
Total	49
Full-Scale Exercise Number of Participants	
Exercise Support Staff	
Actors & Cadre	157
Controllers/Evaluators	9
Exercise Staff	10
Observers/VIPs	6
Moulage Artists	9
Patient Reception Area Staff	
Air Mobility Command Terminal Staff	1
Ambulance Bus Driver	1
American Red Cross	3
C-130 Air Crew	5
CNRMA Fire-Rescue	13
CNRMA Police Department	3
NAVSTA Norfolk Emergency Management	1
Patient Administration Team	8
Patient Reception Team	12
Porters	21
Total	259

Appendix E: Evaluator Feedback Forms for FSE

PUBLIC SAFETY SENSITIVE

Appendix A: Exercise Evaluation

NDMS Patient Reception Exercises
Norfolk, VA

PARTICIPANT FEEDBACK FORM

Exercise Name: _____ **Exercise Date:** _____
Participant Name: _____ **Title:** _____
Agency: _____ **Role:** __Player __Controller __Evaluator __Observer

Part I – Recommendations and Action Steps

1. Based on the exercise today and the tasks identified, list the top 3 issues and/or areas that need improvement.

_____
_____
_____

2. Identify the action steps that should be taken to address the issues identified above. For each action step, indicate if it is a high, medium, or low priority.

_____
_____
_____

3. Describe the action steps that should be taken in your area of responsibility. Who should be assigned responsibility for each action item?

_____
_____
_____
_____

4. List the equipment, training or plans/procedures that should be reviewed, revised, or developed. Indicate the priority level for each.

_____
_____

PUBLIC SAFETY SENSITIVE

Appendix A: Exercise Evaluation **NDMS Patient Reception Exercises Norfolk, VA**

Part II – Exercise Design and Conduct

1. What is your assessment of the exercise design and conduct?

*Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided below, with **1** indicating **strong disagreement** with the statement and **5** indicating **strong agreement**.*

Assessment Factor	Rating of Satisfaction with Exercise				
	Strongly Disagree				*Strongly Agree*
a. The exercise was well structured and organized.	1	2	3	4	5
b. The exercise scenario was plausible and realistic.	1	2	3	4	5
c. The documentation used during the exercise was a valuable tool throughout the exercise.	1	2	3	4	5
d. Participation in the exercise was appropriate for someone in my position.	1	2	3	4	5
e. The participants included the right people in terms of level and mix of disciplines.	1	2	3	4	5

2. What changes would you make to improve this exercise?

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.