MTAC SMAT April Full-Scale Exercise

April 1-3, 2011

AFTER ACTION REPORT / IMPROVEMENT PLAN

July 18, 2011

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EXECUTIVE SUMMARY

The Metrolina Trauma Advisory Committee (MTAC) full-scale exercise MTAC SMAT April 2011 was developed to test MTAC's Planning, Medical Surge, and Responder Safety and Health capabilities. The exercise planning team was composed of numerous and diverse agencies, including MTAC, Stanly County SMAT 3, Charlotte Fire SMAT 3, American Red Cross, Stanly County Community College, Stanly County Airport, Stanly County Emergency Management, North Carolina Air National Guard. The exercise planning team discussed the challenges associated with an influx of patients evacuated from another region. Concerns regarding the ability to deploy a full team as well as the equipment necessary to provide adequate care were frequently stated. Other issues included a lack of current policies for incidents that are likely to occur on a deployment, partnerships with other response agencies to ensure efficient deployment as well as continuation of care, and the ability to receive patients prior to the facility being completely established.

Based on the exercise planning team's deliberations, the following objectives were developed for MTAC SMAT April 2011 FSE:

- Objective 1: Roster a team of 30 members for the entire deployment.
- Objective 2: Deploy SMAT Team Members and resources for at least 48 hours.
- Objective 3: Establish a 40 bed medical reception center.
- Objective 4: Maintain physiological care of 24 patients for 24 hours.
- Objective 5: Receive patients within 1 hour of arrival at site.

The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.

Major Strengths

The major strengths identified during this exercise are as follows:

- The team work between the MTAC SMAT II and Stanly SMAT III was exceptional. Strength of the team/ crew leaders enhanced the exercise.
- Pre-planning allowed for timely deployment of assets.
- Briefings were timely, brief, and included pertinent information.

Primary Areas for Improvement

Throughout the exercise, several opportunities for improvement in MTAC SMAT's ability to respond to the incident were identified. The primary areas for improvement, including recommendations, are as follows:

- Development of site plans and tent plans with sufficient detail to allow less experienced team members to complete all stages of set-up with limited guidance and in a timely manner.
- Lack of protocols and JIT training for several of the exercise elements . (i.e. Medical Support Unit, Equipment, Documentation, Convoy, etc)
- Lack of depth in team leadership. Need to develop and train more members to function in a leadership role.

The MTAC SMAT April 2011 FSE was successful. Numerous opportunities for improvement were identified through the course of the activities. Care of patients was provided for two shifts. The site was established completely. Despite a lack of local and State Medical Response System plans/ protocols, the team functioned well together. The MTAC SMAT II and Stanly SMAT III are now more prepared to deploy to a disaster than they were prior to the exercise.

SECTION 1: EXERCISE OVERVIEW

Exercise Details

Exercise Name
MTAC SMAT April 2011 Full Scale Exercise

Type of Exercise
Full Scale Exercise

Exercise Start Date
April 1, 2011

Exercise End Date
April 3, 2011

Duration
3 days

Location
MTAC Warehouse – Charlotte, NC

Stanly County Airport – Albemarle, NC

Sponsor
Metrolina Trauma Advisory Committee

Program
North Carolina Hospital Preparedness Grant

Assistant Secretary for Preparedness and Response

Mission
Respond and Recover

Capabilities
- Planning,
- Communications
- Onsite Incident Management
- Isolation and Quarantine
- Medical Surge
- Responder Safety and Health

Scenario Type
Evacuee Reception Station

Exercise Planning Team Leadership

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Participating Organizations

- MTAC 700 - SMAT II
- Carolinas Medical Center – Trauma Services
- Stanly County SMAT III
- Stanly County Airport
- Stanly County Fire Marshall
- Stanly County Emergency Management
- Stanly County EMS
- Stanly County Community College
- NC Air National Guard
- Charlotte Fire SMAT III
- NC Office of EMS
- Transylvania County EMS
- American Red Cross
- MEDIC

Number of Participants

- Players: 31
- Controllers: 1
- Evaluators: 3
- Facilitators: 0
- Observers: 3
- Victim Role Players: 24

SECTION 2: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

The purpose of this exercise was to allow the MTAC SMAT II to deploy assets and establish a medical reception center with the assistance of the host county. The ability to respond to a need for the medical shelter by assembling and deploying a team, deployment of resources, establishing a medical shelter and the provision of care were evaluated.

As the exercise was hosted in Stanly County, the Stanly County SMAT III, EMS, Emergency Management, Fire Marshalls Office played a pivotal role in the success of this exercise.

The MTAC SMAT II has not deployed all of its resources in a single exercise or actual disaster deployment. The capability to deploy all the necessary assets as well as function on site had not been evaluated. The design of this exercise was structured to require all participants to remain on site in order to simulate a real world environment as much as possible.

Exercise Objectives, Capabilities, and Activities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the Target Capabilities List (TCL). The capabilities listed below form the foundation for the organization of all objectives and observations in this exercise.

Based upon the identified exercise objectives below, the exercise planning team has decided to demonstrate the following capabilities during this exercise:

Capabilities:

- Planning,
- Communications
- Onsite Incident Management
- Isolation and Quarantine
- Medical Surge
- Responder Safety and Health

Objectives

Objective 1: Roster a team of 30 members for the entire deployment.
Objective 2: Deploy SMAT Team Members and resources for at least 48 hours.
Objective 3: Establish a 40 bed medical reception center.
Objective 4: Maintain physiological care of 24 patients for 24 hours.
Objective 5: Receive patients within 1 hour of arrival at site.

Scenario Summary

The scenario of the Full Scale Exercise was conducted over a 5 day period from March 31 - April4, 2011. The exercise began with an alert and advisory for a possible deployment which precipitated pre-deployment readiness activities on March 31. On April 1st an activation message was sent out to rostered team members outlining a request for deployment to establish a reception site for evacuees from an international disaster. Team members were not previously notified of the nature or location of the exercise. The scenario terminated with the recovery and return to service of all equipment on April 4th.

SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the exercise objectives of MTAC SMAT April 2011 Full Scale Exercise are listed below, followed by corresponding activities. Each capability is followed by summary, related strengths, areas for improvement and recommendations.

Capability 1: Planning

Capability Summary: Planning is how the various partners develop, validate, and maintain plans, policies and procedures. This also includes how to prioritize and deploy assets and personnel as well as information.

Strengths:

- Pre deployment planning facilitated a realistic and accurate "out the door" time line with all rostered personnel and equipment.
- Providing the participant handbook prior to deployment was very helpful.
- Team members time was managed effectively by the event and team leadership to minimize down time and the usual "hurry up and wait" syndrome.

Areas for Improvement:

- During the set-up, there were two conflicting layouts of the site available to team leaders.
- Interior floor plans including where contents should be placed were developed but not disseminated to crew leaders. This led to misplacement of equipment, critical equipment not being utilized and increased time to establish the tent interior for patient use.
- Load plans were inefficient and or absent and not disseminated to crew leaders They did not accurately reflect the contents of the trailers and they were not loaded according to priority for use upon arrival.
- Lack of standardized pre-trip checklist to include vehicles, towable equipment and trailers.
- During the convoy, the route was changed and standard convoy safety procedures were not followed.
- Pre-deployment medical screenings from Stanly SMAT III were not provided to the MTAC SMAT II .
- The non-smoking policy was impossible to enforce and unrealistic.

Recommendations:

- Dissemination of only one site plan, once it is developed based on the mission, will enhance the preparedness of the team.
- Establish a smoking area in the site plan and educate regarding the rules.
- Disseminate tent interior floor plans to guide the crew leaders.

- Develop load plan for all trailers for deployment of various mission plans. Post load plan on the walls of all the trailers.
- Further development of a vehicle/trailer specific pre-trip inspection procedure and forms.
- Further development of a driver qualification checklist. Checklist should be completed by command staff once placed on alert and repeated when the designated driver arrives.
- A convoy plan should be written and disseminated prior to departure. No change to the plan can be made without approval of the Convoy Leader/ Transportation Officer.
- While multiple departure locations are not recommended, if this should be required, medical screenings completed at another location should be emailed to MTAC and a hard copy brought to the deployment by their team leader.

Capability 2: Communications

Capability Summary: Communications are a critical component of the disaster cycle. It is required to complete even the simple tasks in a job function. Communications includes mechanical communications like radios, the internet, telephone, etc as well as comprehension of the message that was sent.

Strengths:

- Radios were given to appropriate personnel and they had the knowledge to use them.
- There was minimal unnecessary communications via the radios.
- Telephones were available in the tents if necessary.

Areas for Improvement:

- Convoy communications were insufficient. After purchasing exterior antennas for the SMAT UHF radios, we were able to optimize it.
- There was a delay in setting up the IT infrastructure. When it was initiated, it took key leadership from the crews.
- Inadequate signage for the site. (i.e. Patient Entrance, Triage, Caution, etc)

Recommendations:

- Ensure the IT is established early in the set-up.
- Identify IT set-up team prior to assignment of logistical support teams in an effort not to alter the team stability.
- Purchase appropriate signage for site.

Capability 3: Onsite Incident Management

Capability Summary: Onsite incident management is the capability to direct and control the onsite incident activities.

Strengths:

- Briefings were held in a timely manner, were brief and included necessary information.
- Crew leaders gave directions well throughout the weekend.
- Crew leadership on Day 2 was very strong. Progress continued smoothly and patient care was managed effectively.
- Throughout the weekend, the Command Staff and Crew Leaders continually reassessed the progress to ensure good flow.

Areas for Improvement:

- Command staff was overwhelmed with all the pre-deployment activities. Delegating many of the tasks to a "Home Team" could alleviate that.
- Command staff and crew leaders should be more clearly identified with a published and posted organizational chart.
- Although leadership roles were clearly identified during briefings, no leadership identification was utilized. (i.e. vests, hats)
- When assigning crew leadership selection should be based off of working knowledge of the tasks associated with the deployment. Crew leader's responsibilities may change with the evolution from logistical/set up to medical operations. At times, a change in crew leadership may be warranted.
- There was no on-site check-in or check-out. There were a number of visitors and a few staff members who arrived and left in POV. The accountability for them was lacking.

Recommendations:

- Develop and post an organizational chart in a common area. Introduce new command staff during briefings.
- Develop clear deliverables for the crew leaders and reinforce them to include definition of crew members' roles.
- Provide additional Western Shelter training.
- Should include "sick call" information in the briefings.
- Always establish a check-in location and designate staff to monitor. Create generic visitor badges as well as a sign in sheet for that location.
- ServNC exports have been utilized previously to complete ICS forms. The export from the system has been changed and now that cannot occur.
- Develop "Home Team" to include roles and responsibilities as well as training.

Capability 4: Responder Health and Safety

Capability Summary: Responder health and safety is the capability that insures adequate training and equipment resources are available for personnel at the time of the incident.

Strengths:

- A safety message regarding weather, air traffic, etc was provided in the initial briefing.
- Lunch rotation was utilized to ensure everyone had ample opportunity to eat, hydrate, and rest while the set-up continued.
- Team members were closely monitored by crew leaders for fatigue and other needs.

Areas for Improvement:

- During set up numerous trip hazards were seen in and around the site like empty tent bags, ladders, etc.
- Should consider developing a M-8 lift gate safety plan with Just In Time training for operators.
    - No one should ride the lift when equipment is on it.
    - Weight and stability of items loaded in addition to the lift capacity should be considered.
    - Lift should be turned off completely once the unloading is complete.
    - One ground spotter should be present during loading and unloading.
    - Cones should be placed around loading area.
- Should consider making observation deck on the M-8 off limits during the high winds.
- Sick Call policy was not publicized adequately. Sick call staff were not identified.
- Spotters were not adequately utilized while backing apparatus.

Recommendations:

- Include the sick call policy in the briefing.
- Constantly look for foreign objects and debris that need to be removed before they interfere with safety and function of personnel and equipment.

Capability 5: Isolation and Quarantine

Capability Summary: Isolation and quarantine is the capability to protect the health of the population through isolation and quarantine measures.

Strengths:

- Patient needing isolation was recognized quickly by the staff.

Areas for Improvement:

- There was concern regarding possible contamination of HVAC filters for the M-8 and Western Shelter tents. Maintaining clean filters will decrease the spread of infection.

Recommendations:

- Investigate the requirements for filter change on all A/C units.
- Purchase extra filters to carry on deployments.
- Develop isolation and quarantine measures protocol to include:
  - Removing the vestibule between the isolation tent and balance of the complex in order to segregate the involved tent.
  - Air handling, including roof vents in the isolation tent
  - PPE availability and storage for isolation area
  - Restricted staff access
  - Handling of exposed SMRS staff.

Capability 6: Medical Surge

Capability Summary: Medical surge is the capability to expand the capacity of the medical aid station in order to provide triage and medical care.

Strengths:

- During the event, the wind was very strong. The tents were unstable, Tie downs to the asphalt were improvised to minimize tent damage.
- Day 2 tent set-up ran more smoothly and timely than initial 3 tents. While the additional tents were established, patient care continued effectively.
- Medical Support Unit was used effectively for patient care.
- Patient care ceased at 21:30. Before this occurred, a change of shift report was given on each patient. No deficiencies or missed actions were noted.
- During the fire drill, patients were evacuated safely to a designated location. A lost person was identified during accountability tracking.
- During the second evacuation, accountability and efficiency increased. Patient charts were brought with the patients.
- On Saturday morning, a roll call was taken for accountability of staff.
- Food trays made patient food delivery and eating a little easier despite the lack of bedside tables.

Areas for Improvement:

- During the provision of care in the Medical Support Unit, it was apparent that the providers did not know how to utilize the MP2 monitors and did not know the location of necessary items.
- There was no area established for the overflow of excess triage patients.
- There was a lack of experience on the Western Shelter System.
- Objective was to establish 4 tents on Friday night. Were only able to erect 3 and they were partially operational.
- Care should be taken to not break up crews once operations have started. Clear

understanding of the tasks given should include attention to the details that finish a task. (i.e. tying in flooring on tents.)

- During the high winds, the door locks would not hold. This was due to the tents not being squared while being set up. Unable to determine if this was due to high winds.
- During the initial evacuation, there was confusion due to a lack of training on an evacuation plan. Patient charts were left behind in the tents. The total number of patients was not known by the charge nurse.
- A patient left without notification. It was not noticed and the bed was filled with another patient.
- Oxygen distribution was not established until Day 2.
- Hygiene centers were not utilized.
- No clear signage for triage or registration for patients.
- There was no designated waiting area for the patients and families.
- There was difficulty feeding the patients due to a lack of bedside tables. The patient had to hold the food on his/ her lap or on a folding chair.
- There was no plan for the management of the linens in the patient care area.
- The water filtration system required additional support to the manifold, additional couplings, and appropriate signage. This was only discovered when the complete system was assembled.

Recommendations:

- A identify a team upon arrival that will be responsible for patients who arrive prior to set-up as well as who will respond to on-site emergencies like a work related injury.
- Consider establishing a triage area prior to any tent set-up in case patients arrive early or if the MSU overflows before the tents are established.
- Develop Just In Time training that is job specific. (i.e. Provide orientation to equipment, documentation and procedure for the Medical Support Unit to those responsible for utilizing it.
- Encourage or require annual viewing of Western Shelter videos as well as Just In Time. Consider developing cadre of Western Shelter experts.
- During initial briefing, discuss evacuation procedures.
- Purchase bedside and procedure tables.
- Test all systems from beginning to the end of set-up and use to ensure compatibility.

SECTION 4: CONCLUSION

The MTAC SMAT II full scale exercise was a success because of cooperation, coordination and participation of the responding and hosting agencies. The willingness of all participants function as they would in a real event made this exercise a useful tool. Although every aspect of this exercise did not go as planned, a real event would be no different. This exercise helped to instill that term “adapt and overcome” as a key to a successful operation.

The knowledge, training and partnerships learned through this exercise will help to shape future responses with the MTAC Region and State. The areas of improvement and recommendations will help to drive future training and exercises in an effort to help the SMAT II deploy to an event in a more efficient and timely manner.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for MTAC SMAT 2 as a result of MTAC SMAT April Full Scale Exercise conducted on April 1-3, 2011. These recommendations draw on both the After Action Report and the After Action Conference.

Table A.1: Improvement Plan Matrix

Capability	Observation Title	Recommendation	Corrective Action Description	Team	Start Date	Completion Date
Planning	1. Smoking Policy	1.1 Establish a smoking area in the site plan and educate regarding the rules.	1.1.1 Purchase ashtrays and signage	Logistics	May, 2011	June 2011
			1.1.2 Develop smoking policy	Logistics		
	2. Conflicting Tent Layouts	2.1 Provide only 1 site plan on deployment.	2.1.1 Develop site specific layout	Logistics	May, 2011	
	3. No interior floor plans	3.1 Develop interior tent floor plans to provide to crew leaders	2.1.1 Develop interior plans	Logistics	May, 2011	
	4. Inefficient Load Plan	4.1 Develop load plans for all trailers based on 40 bed mission	4.1.1 Develop load plans	Logistics	May, 2011	
		4.2 Post load plan on trailer wall	4.2.1 Post load plans	Logistics		
	5. Malfunctioning turn signal	5.1 Develop predeployment driver checklist. Consider checking vehicles once team placed on alert as well as upon drivers' arrival.	5.1.1 Develop driver check off policy	Logistics		
	6. Pre-deployment screenings at remote site	6.1 Have any screenings done off-site emailed to command. A copy should be brought with the team to site		Logistics		

Capability	Observation Title	Recommendation	Corrective Action Description	Team	Start Date	Completion Date
Planning	7. Inadequate convoy communication	7.1 Have a driver briefing before departure to review the route, rest locations and procedures for drivers. Drivers in the convoy should be notified well ahead of any turns, lane changes, debris in the road, split convoys, etc.	7.1.1 Develop driver JAS and briefing criteria.	Logistics		
Communications		7.2 Purchase additional antennas to enhance vehicle communication.	7.2.1 Antennas purchased and installed	Communications	May 2011	May 2011
Communications	8. Delay in IT infrastructure set-up.	8.1 Include IT set-up early on the agenda		Planning		May 2011
	9. Inadequate signage on the site	9.1 Consider needed locations and types of signs. i.e Triage, check-in ,etc.	9.1.1 Purchase signs	Logistics		
Onsite Incident Management	10. Pre-deployment activities	10.1 Consider development of home team to manage deployment activities from home.	10.1.1 Develop home team plan to include JAS and expectations	Planning		
	11. Increased communication of ICS structure	11.1 Display org chart on site and introduce command staff during each briefing				
	12. Inadequate guidance to crew leaders	12.1 Provide team leader training				
		12.2 Hold crew leader briefing to outline goals and expectations				
	13. Inadequate Western Shelter expertise	13.1 Provide additional Western Shelter training.		Logistics		

Capability	Observation Title	Recommendation	Corrective Action Description	Team	Start Date	Completion Date
Onsite Incident Management	14. Visitor and Staff Control	14.1 Establish on-site check-in to improve accountability and monitoring. Include sign in sheet and blank visitor ID badges.				
Responder Health and Safety	15. Monitor staff hydration and health	15.1 Schedule and enforce breaks.				
	16. Trip hazards	16.1 Ensure that all staff return items to the proper location and all cords and other equipment are secured and labeled appropriately.				
	17. Lift Safety Plan	17.1 To ensure safety using the lift gate, develop guidelines for use and just in time training.				
	18. High wind risk	18.1 Consider developing guidelines regarding when certain portions of the site should be off limits, like the observation deck in a high wind.				
	19. Sick Call Plan	19.1 Develop and publish a sick call plan every morning to ensure everyone is fit for duty.				
	20. Use of spotters	20.1 Use spotters every time a vehicle is backed up.				
Isolation and Quarantine	21. HVAC filtration	21.1 Evaluate the need for and capacity of filters on the M-8 and Western Shelter HVAC units				

Capability	Observation Title	Recommendation	Corrective Action Description	Team	Start Date	Completion Date
Medical Surge	22. Medical Support Unit Utilization	22.1 Develop Just In Time Training for MSU				
		22.2 Select a medical team to respond to incoming patients that arrive early. Provide orientation to them before they begin another task.				
	23. No triage area	23.1 Identify a location upon arrival that could receive initial patients and house patients until they can be seen.				
	24. Tent set-up incomplete	24.1 Develop floor plans and encourage each team to complete their tasks.				
	25. Evacuation	25.1 Write an evacuation procedure. Orient all staff on procedure upon arrival and the as needed.				
	26. Oxygen distribution delayed.	26.1 Have timeline for all items that need to be set up and assign to crew leaders.				
	27. Hygiene centers not set-up	Same as above				
	28. Difficulty feeding patients	28.1 Purchase procedure tables		Logistics		
	29. Linen management	29.1 Establish a plan to manage disposable and reusable linens				
	30. Water filtration needed adaptation	30.1 Purchase and install all needed pieces and couplings.		Logistics	May 2011	May 2011