SENDING HELP:
THE LESSONS LEARNED FROM DEPLOYING VIRGINIA EMERGENCY MEDICAL SERVICES TASK FORCES

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A Paper Presented At The 2000 Virginia Emergency Management Conference

Williamsburg, Virginia
20 March 2000

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THE IMPACT OF MADISON COUNTY

The 1995 Madison County flooding was a critical event in the evolution of how the Virginia Department of Health responds to local jurisdiction requests for emergency medical assistance in declared States of Emergency. In 1995 the Department’s procedure was to request that the Chief Rescue Officer of the Virginia Association of Volunteer Rescue Squads ask for volunteer response by the state’s volunteer rescue squads (Virginia Association of Volunteer Rescue Squads 1993). The following problems with that response management concept were observed during the Madison county flooding:

1. The health and medical representative in the state emergency operations center had no way of determining what resources were responding, and could not inform the County of what to expect and when it should arrive. In fact, in spite of efforts to do so, it was never possible to arrive at a final accounting of what vehicles and crews arrived in Madison County.

2. One agency with substantial resources responded even though it was not licensed to provide emergency medical services.

3. Resources that did respond were unprepared to support themselves to any degree in the disaster area, and became competitors for scarce resources.

4. There was no accountability and safety monitoring to ensure that vehicles and crews safely returned home (Virginia Office of Emergency Medical Services 1995).

In the light of these problems, the Office of Emergency Medical Services identified the need for a way to mobilize and deploy resources in disaster events. Traditional thinking in the emergency medical services is that the word “disaster” equates to a mass casualty event, with far too many injured persons for local resources to handle (Auf der Heide 1989). However, the experience of Madison County, later confirmed in 1998 in southwestern Virginia and in 1999 in the City of Franklin, suggested that the real issue was the wearing down of resources over a prolonged period of high activity. Local jurisdictions needed replacement of their entire system’s capability, not just the mass casualty model of 20 more ambulances for a short period of time.

During this period the first efforts to define standard resource packages for disaster response were being undertaken under the auspices of the Central United States Earthquake Consortium and the Southern Governor’s Association (1993). The initial materials available to Virginia suggested that the standard state-to-state mutual aid resource for emergency medical services would become an Ambulance Strike Team, based on a single vehicle and crew (Tolbert and Durham 1995). This resource would seem ideal when more ambulances are needed for a
mass casualty incident, but as a package it does not represent the totality of a typical emergency medical services agency’s capabilities.

THE TASK FORCES

The resource package developed in Virginia in 1996 (Butler 1996) was designed to mirror the capabilities of a fully staffed emergency medical services agency. This package evolved based on lessons learned in deployments and exercises over a four year period. Originally the concept called for a Task Force of one Basic Life Support Ambulance, one Advanced Life Support Ambulance, and one Heavy Duty Crash Truck, with an optional mass casualty trailer. However, the cost of operating a heavy duty crash truck, its slow speed, questions about the ability to send such vehicles down disaster impacted roads, and the general lack of need for heavy rescue capabilities led to a reassessment. Light duty quickly replaced heavy duty. Mass casualty trailers were deleted from normal requirements when mass casualty disasters failed to develop. At the same time it became obvious that there was a need for smaller and lighter vehicles that could be used for reconnaissance and as back-up vehicles; the quick response vehicle made its appearance (Virginia Office of Emergency Medical Services 1999c). And lessons learned from Hurricane Floyd added the requirement for logistics support trailers to carry the supplies needed to support a Task Force’s personnel in the field (Virginia Office of Emergency Medical Services 1999d).

The term Task Force was adopted to reflect standard Incident Command System terminology. In the Incident Command System a mix of different types of resources under a single leader is termed a “Task Force,” while a collection of the same type of resources is a “Strike Team” (FIRESCOPE California 1996). From the start these were intended as permanent resources, formed on a local basis, with identifiable member agencies, vehicles, and personnel. This regularization of the organization was viewed as a critical factor in ensuring that units that responded met certain key requirements:

1. The Task Force should have a permanent membership. Task Force Members actually apply for membership in a Task Force, and are formally accepted. At least one Task Force has a waiting list for membership.

2. The members should know each other and be used to working and training together in the context of the Task Force.

3. All members should have standard training in Task Force missions and procedures.

4. Task Forces should have permanent leaders. In this case the term Task Force Commander was chosen to reflect the responsibility for administrative, organizational, training, and employment activities of the Task Force.

5. Each Task Force should have an established method of alerting.
6. Each Task Force must be prepared to operate as self-sufficiently as possible for a 72 hours deployment.

Absent these factors Virginia would have been no further along than in the pre-Madison County period. Yes, there would have been a new name for a group of vehicles and people, but the same essential problems in getting resources out the door to meet needs would have remained.

In addition it became important to define Task Force missions, the types of employment for which they were best suited. Because a Task Force represents a cohesive package of resources, its value is increased when it is employed as a unit, not just simply parcelled out as a vehicle here and a crew there across a county. More importantly, employment as a unit is essential to safety and accountability in a disaster environment. The following missions have been defined for Task Forces (Virginia Office of Emergency Medical Services 1999c):

1. Augment or replace an emergency medical service’s agency, providing coverage in its first due area. This is the role in which Task Forces have been used in the two deployments to date.

2. Support disaster response forces attempting to access a catastrophically devastated area (the Hurricane Andrew in south Florida scenario).

3. Serve as a team assigned to a special task. Conceptually this ranges from being assigned to assist in evacuation of a medical facility to providing rescue and transport resources for a patient clearing station (such as a Disaster Medical Assistance Team).

4. Provide reception capability at an airfield receiving patients from the National Disaster Medical System in an out of state airlift (exercised in Exercise Bright Star 99, but never used operationally).

The second critical component was a command and control system to actually alert, mobilize, deploy, and monitor the resources. The Office of Emergency Medical Services staffed the health and medical functional desk in the State Emergency Operations Center. However, this facility has only limited communications and space precludes the effective management of the level of effort required to actually move and account for resources. Therefore, in 1996 the Office of Emergency Medical Services started the development of an Emergency Support Center in its office space to serve as a health and medical emergency operations center. Linked to the staff member in the State Emergency Operations Center, this facility operates in much the same way as the Virginia Transportation Emergency Operations Center and the Virginia State Area Command Emergency Operations Center. As Table 1 shows, this provides a standard pathway for the flow of information and requests in an emergency.

However, this degree of interaction generates a considerable amount of telephone traffic. For example, during the Hurricane Floyd response all three telephone lines into the Emergency Support Center remained in constant use, often with calls waiting on hold, for the peak 6:00 am to 8:00 pm period, for three days. This level of demand requires the use of techniques to speed
up and regularize communications. The Office adopted voice formats, written standard templates into which information is inserted for transmission either by telephone or facsimile, based on the voice format system developed for the Joint Interoperability of Tactical Command and Control Systems (JINTACCS) program of the Department of Defense. The voice format template standardizes the message, allows rapid delivery, and helps to ensure that critical information is not overlooked. Current templates provide for standard alerting and mission tasking and structure field reports (Virginia Office of Emergency Medical Services 1999c).

Table 1. Flow of Assistance Requests

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. agency within a jurisdiction requiring help</td>
<td>2. jurisdiction emergency operations center</td>
</tr>
<tr>
<td>3. jurisdiction emergency operations center</td>
<td>4. Virginia Emergency Operations Center local liaison</td>
</tr>
<tr>
<td>5. local liaison</td>
<td>6. health and medical desk</td>
</tr>
<tr>
<td>7. health and medical desk</td>
<td>8. Emergency Support Center</td>
</tr>
<tr>
<td>9. Emergency Support Center</td>
<td>10. jurisdiction emergency operations center</td>
</tr>
<tr>
<td>11. Emergency Support Center</td>
<td>12. Task Forces and Coordination Team</td>
</tr>
<tr>
<td>12. Coordination Team</td>
<td>13. jurisdiction emergency operations center</td>
</tr>
<tr>
<td>14. Coordination Team</td>
<td>15. agency originally requesting help</td>
</tr>
</tbody>
</table>

Table 2. Information Flow Using Standard Voice Formats

<table>
<thead>
<tr>
<th>Format</th>
<th>From/To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerting</td>
<td>Emergency Support Center to Task Force</td>
</tr>
<tr>
<td>Mission Tasking</td>
<td>Emergency Support Center to Task Force</td>
</tr>
<tr>
<td>Report</td>
<td>Task Force to Emergency Support Center</td>
</tr>
</tbody>
</table>

**Growth of the Concept**

In January 1998 three Emergency Medical Services Task Forces were deployed to Washington County, Virginia, to assist in a severe winter storm. This experience highlighted shortcomings resulting from the lack of a command and control and logistics structure to support the Task Forces in the field. Although resources were successfully deployed in minimum time a
travel distance in excess of six hours over hazardous roads, when they arrived each Task Force Commander was forced to sort out operational and logistics issues on his or her own. In addition, County officials now had three separate resources to deal with, adding to their span of control issues.

As a result the Office of Emergency Medical Services identified a need to deploy a two person Coordination Team with any Task Force deployment. The Coordination Team is designed to arrive with or ahead of the Task Force, establish where and how Task Force resources will be used, arrange billeting, messing, fuel, medical resupply and other issues, sort through medical protocols, and establish a reporting link with the Emergency Support Center (Virginia Office of Emergency Medical Services 1999b). Initially this was seen as a relatively simple function, with a two person staff, one to act as coordinator, the other to focus on communications and reporting.

Hurricane Floyd made two additional fundamental changes in how the Commonwealth’s emergency medical services system responds to disasters. A first key lesson was that a two person Coordination Team was inadequate to deal with the potential needs it might have to face. Two people expanded to five, with four of them performing functions that had never been envisioned. Because the Team was a uniformed, organized resource, its personnel were quickly siphoned off to do other missions for the City and the Virginia Department of Health. As a result, coordination and communication did not flow as smoothly as originally envisioned, and suboptimal tactical decisions were made, including the assignment of resources to missions that were inappropriate for their training and capabilities.

The second fundamental change was the recognition that critical incident stress management resources had to be managed the same way as emergency medical services resources. The first part of this struck home in early October, as the State of North Carolina requested critical incident stress management (CISM) teams under the Emergency Management Assistance Compact. Instead of a deployment being one telephone call to alert, one to issue mission tasking, and a Task Force moving within two hours, fielding the first CISM Strike Team sent to North Carolina took the complete attention of the Office of Emergency Medical Services Program Manager for CISM for one work week (Virginia Office of Emergency Medical Services 1999d). Not only was this not time-responsive, but it represented an incredible waste of resources. Although the Commonwealth has a well developed network of strong regional critical incident stress management teams, none of these teams had ever developed a capability to respond outside their region, much less outside the state.

The second part of the Critical Incident Stress Management issue was the realization that the Task Forces and Coordination Teams need critical incident stress support on scene with them. Stress and fatigue in field operations is a major concern for the Task Forces, as experience indicates that operations will be continuous. The tendency is for the Task Force members to want to respond throughout their deployment period, leading to physical exhaustion and stress at the 48 hour period. There also appears to be an emerging dynamic that many responders simply feel a need to return home after this length of concentrated work among people whose lives have been seriously disrupted by a disaster event. Presence of individuals trained to identify and
defuse such stress appears to be important to maintaining operational capabilities and to ensuring safety.

However, experience in Franklin indicates that early presence on the scene by trained critical incident stress managers may be important to assessing the need for stress management for the community’s resources and making those services available in a coordinated, non-threatening way. The critical incident stress management response to Franklin was not well managed—two initial offers of assistance were refused, followed by an uncoordinated response by out of state resources that were completely unfamiliar with established state protocols and capabilities. When one state agency that had a team responded, this team was met with open hostility, apparently due to bureaucratic politics unrelated to the need.

As a result of these issues, work is now in progress to develop and field Critical Incident Stress Management Strike Teams. These Strike Teams will be available for deployment whenever Task Forces are deployed and for deployment out-of-state under the Emergency management Assistance Compact (Virginia Office of Emergency Medical Services 1999a).

Table 3. Current Resources Required for an Emergency Medical Services Deployment

<table>
<thead>
<tr>
<th>Resource</th>
<th>Quantity</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medical Services Task Forces</td>
<td>at least 2 (8 vehicles, 20 personnel)</td>
<td>relieve or augment the jurisdiction’s existing emergency medical services system</td>
</tr>
<tr>
<td>Coordination Team (C Team)</td>
<td>1 (3 vehicles, 6 personnel)</td>
<td>manage employment of the Task Forces, supplement jurisdiction operations structure, manage logistics and communications</td>
</tr>
<tr>
<td>Critical Incident Stress Management Strike Team</td>
<td>1 (2 vehicles, 5 personnel)</td>
<td>provide CISM support and stress monitoring for the Task Force and C Team, assess needs for CISM support to jurisdiction</td>
</tr>
<tr>
<td>Emergency Support Center</td>
<td>(3-10 personnel)</td>
<td>provide 24 hour command and control, manage resources, meet logistics requirements</td>
</tr>
</tbody>
</table>

**CRITICAL LESSONS**

The lessons learned in over four years of effort to develop an effective means of meeting local needs for emergency medical services assistance can be translated to almost any approach to moving resources in a disaster.

1. Developing a system for moving resources is an evolutionary process. As you develop one component, experience will suggest additional components. This means that the
procedures and training you develop have to be flexible enough to adapt to the inclusion of new elements.

2. You can expect each major event to generate a major change in your requirements, organization, training, or some other component of your system. Every change implemented to date in the Virginia model resulted from lessons learned in a major disaster.

3. Resources that are not pre-identified become a pick-up solution. Use of pick-up solutions means that you have to spend time in the midst of the disaster solving a host of issues that are better resolved in advance of the event. The amount of time required to do this in a disaster seems to be significantly greater than that required in a pre-disaster effort.

4. No matter how simple it sounds, it isn’t that easy. The first question was “how do we get some ambulances to Madison County to help deal with the flooding?” Today’s answer is that the Virginia Office of Emergency Medical Services mobilizes a complete system, as shown in Table 3.

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Tolbert, Eric and Tom Durham. “Interstate Mutual Aid.” Presentation at the 1995 Annual Meeting of the Central United States Earthquake Consortium, St. Louis, MO.


