A DEVELOPMENT MODEL FOR A STATEWIDE MEDICAL DISASTER RESPONSE SYSTEM

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INTRODUCTION

How can a state emergency medical services office develop an effective system for response to major disasters? What are the needs and what mechanisms exist to meet these needs? What resources are available and how can they be incorporated at minimum cost? Answers to these questions are fundamental to developing an effective system for state level response to meet local jurisdiction requests for assistance in disasters.

THE IMPETUS FOR DEVELOPMENT

The State of Nature

Prior to 1995 state emergency medical services response to disasters was based on the reality that the Office of Emergency Medical Services owned no response resources of its own and was not staffed to manage large scale medical operations. Typically when a disaster threatened, the Director of the Office would serve as the primary, and often only, staff member in the state Emergency Operations Center until the disaster was controlled. If resources were needed, the Virginia Association of Volunteer Rescue Squads was asked through its Chief Rescue Officer to solicit volunteer resources from its members (Virginia Association of Volunteer Rescue Squads 1993).

Madison County as a Watershed Event

In June 1995 a prolonged rain event caused catastrophic flooding in Madison County, a jurisdiction located on the east side of the Blue Ridge Mountains in north central Virginia. At one point every road into the County was blocked by flooding, and every bridge was either closed or damaged (Commonwealth of Virginia 1995). County officials requested assistance, and using its standard procedures, the Office of Emergency Medical Services requested that the Virginia Association of Volunteer Rescue Squads provide resources. In the aftermath the staff of the Office of Emergency Medical Services identified the following problem areas:

- no one could with certainty identify all the resources that participated.
- resources from an agency that was not a licensed emergency medical services agency were dispatched to provide patient care and transportation.
- the county could not be provided with certainty what resources were coming or when to expect them.
• resources that went were unprepared to be self-supporting and became competitors for scarce support supplies.
• there was no accountability of resources and no way to ensure that they returned home safely.

Emerging Causes for Concern

The flooding in Madison was not the only cause for concern spurring the development of an integrated state response system. It was simply the event that forced the Office of Emergency Medical Service to address its role in a context of efficiency and liability exposure. Other factors helped shape the response of the Office.

Shrinking bed space availability

The clear trend is that hospitals are reducing the number of staffed beds and that new hospitals, especially in rural areas, are being built with smaller capacities, a trend that can be expected to continue (Moore 1999). However, this means that fewer beds will be staffed and available in the event of a major disaster. This trend may be exacerbated in some localities in some types of disaster events by disabled advocacy for sheltering special needs patients in hospitals. If a disaster happens in the midst of a winter influenza outbreak, system capacity may be measured in the tens of beds, not hundreds or thousands.

The World Trade Center bombing

The bombing of the Murrah Federal Building is often cited as an event which drove increased interest in terrorism response. In Virginia the bombing of the World Trade Center was a lesson taken more to heart. The World Trade Center bombing had the potential to generate huge numbers of patients, and in the actual event the vast majority of the injured were evacuated, treated, and transported by non-specialist teams. The lesson drawn from this was that there are credible scenarios that will generate large numbers of patients and that do not require highly specialized super-teams for the majority of the rescue task.

High risk events

This message was particularly applicable to the Virginia experience. Although Virginia cities do have high-rise buildings, none approach the World Trade Center in size or population. However, on an average weekend day two large theme parks in Virginia each have routine populations of 30,000 visitors in their parks. Richmond International Raceway achieves large populations in the 100,000 range during a major NASCAR event. Even horse racing attracts large crowds, 20,000 plus on a rainy day for the Strawberry Hill Races. All of these facilities are vulnerable to a variety of natural, man-made, and national security threats.
The potential for system overload

Response to disasters depends on an integrated system of communications, pre-hospital resources, and medical facilities. Although 85 percent of Virginia’s land area is served by 9-1-1 systems, the presence of a 9-1-1 system does not guarantee effective disaster communications. The Public Safety Answering Point for a small jurisdiction operates with limited staffing and limited telephone lines. The same limitation extend to radio frequencies, communications coverage, and back-up communications systems. With approximately 2300 licensed emergency medical services vehicles, Virginia would not appear to be short of pre-hospital resources. However, the distribution of agencies, heavy involvement of volunteers in the system, and distances involved mean that a real potential exists for a large event to exceed transportation capabilities. These limitations, combined with those already mentioned for hospitals means that system overload is a real possibility.

The Needs Analysis

Initial concepts for providing state level support focused on response to Mass Casualty Incidents. At one point, advocates for state level response seriously considered forming special overhead cadres that could be dispatched to assist local jurisdictions in managing a Mass Casualty Incident in progress. This was consistent with the common usage that a disaster is defined by having more patients than you can treat and transport.

However, a review of the characteristics of past events, including disaster events in Virginia and Mass Casualty Incident, revealed that the mass casualty scenario was potentially not the correct planning scenario. Clearance times for mass casualty incidents indicated that local resources may successfully triage, stabilize to the degree necessary, and transport patients in typical mass casualty incidents before outside resources could arrive. On a more telling basis, no historical documentation identified requests to the state level for assistance in a local mass casualty event.

The request to assist Madison County had come several days into the event, and reflected the exhaustion of the local volunteer rescue squad, not the presence of large numbers of ill or injured. This suggested that the most probable scenario for state level response could be one in which a community needs assistance in a disaster because the local emergency medical services can no longer function effectively in a prolonged event.

Key Objectives

The primary objective of this effort has been to ensure that when a county or city calls for help, the state level Emergency Medical Services system can respond effectively to provide the specific help requested.
THE EVOLVING STRUCTURE

Although at times it appeared that development of the state-wide response system was an uncoordinated cycle of lurches in odd directions, there was an effort to do very basic system building activities. Central to this effort was the incorporation of existing system strengths, including the large number of emergency medical services agencies, Regional Emergency Medical Services Council’s existing planning for mass casualty events, and the Trauma Center system.

Enhance Local Capability

Local resources are the first response to any disaster. The least expensive and potentially most fruitful way to enhance the capabilities of local emergency medical services agencies is through training. Most emergency medical services agencies have significant investments in vehicles and equipment that can be utilized as is in disaster response work. The problem is to give individual providers the skills they need to be effective in these roles.

Mass Casualty Incident Management

Virginia has developed a reasonably robust capability for response to mass casualty incidents through a building block approach. In 1996 the Virginia Office of Emergency Medical Services published a 1.5 hour Mass Casualty Incident Management Awareness Level training program as part of a four module series (see Figure 1). This course was adopted as supplemental material to the Emergency Medical Basic Course—every new emergency medical services provider is supposed to receive this training. In early 1997 the second module of this program, the Operations Level, was published to provide training to more experienced providers to qualify them to serve as Unit Leaders within a Medical Group.

Figure 1. Virginia Mass Casualty Incident Management Training

<table>
<thead>
<tr>
<th>Module</th>
<th>Level</th>
<th>Length</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Awareness</td>
<td>1.5 hours</td>
<td>every certified EMS provider</td>
</tr>
<tr>
<td>II</td>
<td>Operations</td>
<td>7 hours</td>
<td>experienced EMS providers and Supervisors</td>
</tr>
<tr>
<td>III</td>
<td>Supervisor</td>
<td>16 hours</td>
<td>supervisors who serve as Medical Group Supervisor</td>
</tr>
<tr>
<td>IV</td>
<td>Emergency Operations</td>
<td>8 hours</td>
<td>individuals who will represent the EMS function in jurisdiction Emergency Operations Centers</td>
</tr>
</tbody>
</table>
Although Mass Casualty Incident Management addresses a disaster problem already identified above as not being the primary need, this program has achieved other results. First, it established the Office of Emergency Medical Services as a developer of standard disaster training, a departure from the normal training operations of the Office which pass through national curricula to field instructors. Second, it introduced the new Emergency Medical Technician to basic concepts of resource management that apply in all disasters. And third it taught a standard approach to incidents based on the Incident Command System (Commonwealth of Virginia 1999c and 2000b).

Terrorism

The explosion of interest in response to terrorist originated incidents created a dilemma for the Office of Emergency Medical Services. At least three terrorism training programs were being delivered in Virginia—by the Department of Emergency Services, the National Fire Academy, and the National Domestic Preparedness Program. All of them presumed access to equipment and levels of training that would not be available to the large majority of emergency medical services agencies. And the focus of the training was, and is, on major metropolitan areas and weapons of mass destruction. This training would do little to prepare a volunteer rescue squad in rural Louisa County, with limited training hours and resources, to deal with two possible terrorist incidents in a month, both conventional explosive bombings (which is exactly what they experienced in 1999).

Figure 2. Virginia Emergency Medical Services Counter-Terrorism Training

<table>
<thead>
<tr>
<th>Module</th>
<th>Level</th>
<th>Length</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Awareness</td>
<td>1.5 hours</td>
<td>every certified emergency medical services provider in Virginia - recognition and safety</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>experienced providers who may be assigned as Unit Leaders or the Medical Group Supervisor - scene management issues</td>
</tr>
<tr>
<td>II</td>
<td>Operations</td>
<td>1.5 hours</td>
<td>every qualified emergency medical services provider - clinical treatment issues</td>
</tr>
<tr>
<td>III</td>
<td>Technician</td>
<td>4 hours</td>
<td>individuals who represent the EMS function in jurisdiction Emergency Operations Centers - same as for mass casualty incidents</td>
</tr>
<tr>
<td>IV</td>
<td>Emergency Operations Center</td>
<td>8 hours</td>
<td></td>
</tr>
</tbody>
</table>

The Office has decided to field a four level training program that parallels the training approach used for mass casualty training with a focus on what emergency medical services providers need to know about the full range of terrorist events (see Figure 2). This is not designed to conflict or compete with the other programs, but rather to bring counter-terrorism
training to jurisdictions that do not have it otherwise available. Module I is complete and work on the other modules is progressing (Commonwealth of Virginia 1999b).

**Developing Deployable Resources**

**Task Forces**

At the start of the hurricane season in 1996, the Office of Emergency Medical Services took the first steps toward the development of state level resources that could be deployed to meet a jurisdiction’s call for assistance. A request for participation directed to the twelve Regional Emergency Medical Services Councils resulted in one Council sponsoring the first Task Force, Lord Fairfax 1. Initially Task Forces were three vehicle units, with two ambulances and a crash truck. However, over time composition has evolved to a four vehicle unit (see Figure 3) that replicates the vehicles available in a typical local emergency medical services agency.

**Figure 3. Virginia Emergency Medical Services Task Force**

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Crew</th>
<th>Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Response Vehicle</td>
<td>2</td>
<td>reconnaissance, command post vehicle, second in a two vehicle response in moderate hazard conditions</td>
</tr>
<tr>
<td>Basic Life Support Ambulance</td>
<td>3</td>
<td>treat and transport GREEN and YELLOW patients</td>
</tr>
<tr>
<td>Advanced Life Support Ambulance</td>
<td>3</td>
<td>treat and transport RED patients</td>
</tr>
<tr>
<td>Crash/Rescue Truck</td>
<td>2</td>
<td>gain access to patients, second in a two vehicle response in moderate hazard conditions</td>
</tr>
<tr>
<td>Disaster Support Trailer</td>
<td>N/A</td>
<td>transport additional supplies needed to support operations</td>
</tr>
</tbody>
</table>


Vehicles are only part of the overall structure. A Task Force also consists of volunteer members drawn from volunteer rescue squads, commercial ambulance services, and
govermental emergency medical services agencies. All Task Force members must complete an application, be approved as members by the Office of Emergency Medical Services, and complete a four hour Task Force Member Course. Each Task Force also has designated Commanders, who are responsible for the administration, training, and operation of the Task Force in the field. Commanders must complete an 8 hour Task Force Commander Course (see Figure 4 for a summary of the current and developmental Task Force training programs). The formal relationship of the individuals with the Office of Emergency Medical Services, the training, and the designation of established leadership are all critical to the success of Task Forces as permanent organizations. This permanence is being manifested by distinctive unit shirts, vehicle paint jobs, unit patches, and other signs of the development of unit cohesion and morale.

Figure 4. Virginia Task Force Training

<table>
<thead>
<tr>
<th>Course</th>
<th>Length</th>
<th>Focus and Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Force Member</td>
<td>4 hours</td>
<td>basic safety, standards of conduct, mission, and organization of Task Forces - being taught</td>
</tr>
<tr>
<td>Task Force Commander</td>
<td>8 hours</td>
<td>mission planning and procedures and command and control - being taught</td>
</tr>
<tr>
<td>Airhead</td>
<td>6 hours</td>
<td>operation of an airhead to accept arriving National Disaster Medical System patients - in development for delivery in 2000</td>
</tr>
<tr>
<td>Tactical Command</td>
<td>6 hours</td>
<td>management of field operations in the disaster impact area - in outline</td>
</tr>
<tr>
<td>Staff College</td>
<td>16 hours</td>
<td>scope of health and medical disaster operations and management - in concept</td>
</tr>
</tbody>
</table>

To date Task Forces have been deployed on two major disasters, a severe winter storm in Southwestern Virginia in January 1998 and the flooding of the City of Franklin as a result of Hurricane Floyd in 1999. When deployed the Task Force has the capability to perform a variety of missions, of which the most common is to augment a local emergency medical services agency. A Task Force can take over operations for an operational period (typically 12 hours) to allow the agency to rest its personnel, and then continue to operate as a shift relief for up to 72 hours. Task Forces are a response phase resource, designed to respond, relieve exhausted local resources and allow them to rest and restore normal operations, and then to leave. Although not completely self-sufficient—it is impossible for the Task Force to carry a 72 hour load of water and fuel—the Task Force is designed to impose no feeding or billeting load on local resources.
Currently the Office of Emergency Medical Services has 10 Task Forces (see Figure 5). Based on experiences in the City of Franklin, eventual plans are for the establishment of 24 Task Forces. Coverage in the southern and western parts of the Commonwealth, in particular, needs to be developed.

![Figure 5. Virginia Emergency Medical Services Task Forces](image)

<table>
<thead>
<tr>
<th>Task Force Title</th>
<th>Number</th>
<th>Location</th>
<th>Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lord Fairfax</td>
<td>1</td>
<td>northwest - Winchester</td>
<td>V</td>
</tr>
<tr>
<td>Thomas Jefferson</td>
<td>2</td>
<td>west central - Charlottesville</td>
<td>V</td>
</tr>
<tr>
<td>South Central</td>
<td>5</td>
<td>south central - Farmville</td>
<td>V</td>
</tr>
<tr>
<td>Crater</td>
<td>6</td>
<td>central - Petersburg, Colonial Heights</td>
<td>G, V</td>
</tr>
<tr>
<td>Metro</td>
<td>7</td>
<td>central - Hanover County</td>
<td>V</td>
</tr>
<tr>
<td>Northern Virginia</td>
<td>8</td>
<td>northern - Sterling</td>
<td>V</td>
</tr>
<tr>
<td>Northern Virginia</td>
<td>10</td>
<td>northern - Manassas</td>
<td>V</td>
</tr>
<tr>
<td>Metro</td>
<td>11</td>
<td>central - Henrico County</td>
<td>V</td>
</tr>
<tr>
<td>Tidewater</td>
<td>12</td>
<td>eastern - Virginia Beach</td>
<td>C, V</td>
</tr>
<tr>
<td>Eastern Shore</td>
<td>13</td>
<td>eastern - Accomac and Northampton Co.</td>
<td>V</td>
</tr>
</tbody>
</table>

*Note:* V indicates volunteer agencies provide the Task Force, G governmental services, and C commercial services.

Coordination Teams

One of the lessons learned from the Task Force’s first deployment in 1998 was that it was unrealistic to expect Task Force Commanders to deal with logistics issues, coordinate with each other and with local government, and adequately supervise their own resources. As a result, the Office of Emergency Medical Services established two person Coordination Teams to be deployed to support, manage, and report the activities of multiple Task Forces at the same location during a disaster. Originally, the two individuals on the Team were expected to be able to provide 24 hour coverage in 12 hour shifts as necessary.

However, the Franklin deployment changed that concept. As quickly as qualified Coordination Team members arrived they were snatched up by the event—three went to help manage City emergency medical services and fire operations, one was assigned to staging for all resources, and another ended up spending a large portion of his time coordinating public health activities with the Health District Director. The new operational concept calls for two five-person teams to provide 24 hour coverage and to accept that some personnel may be loaned to help overloaded local officials (Commonwealth of Virginia 1999a).
Critical Incident Stress Management

During the response to Hurricane Floyd, North Carolina requested assistance from Virginia Critical Incident Stress Management Teams under the Emergency Management Assistance Compact. Virginia has a robust Critical Incident Stress Management system with regional teams in each of twelve Emergency Medical Services Regional Council areas. These teams respond to acute incidents in the council area. However, no structure was in place to respond to events in other regions or other states. As a result the Office of Emergency Medical Services Critical Incident Stress Management Program Manager and her staff were forced to recruit individuals willing to go to North Carolina and then assemble ad hoc strike teams. There is a clear need for Critical Incident Stress Management Strike Teams that can deploy, not only to meet needs of impacted organization, but which can also support deployments of Emergency Medical Services Task Forces (Green 2000). As a result, starting at this year’s state Critical Incident Stress Management Conference, initial steps will be taken to train and organize strike teams.

Developing a Command and Control Architecture

Resources demand a system to alert, mobilize, deploy, gather information, and maintain accountability during a disaster. In 1996 the Office of Emergency Medical Services started to develop an Emergency Support Center as a state medical emergency operations center. This facility has evolved into a capability to maintain 24 hour operations using a volunteer Health and Medical Emergency Response Team. The complete staff is six persons; however, most operations can be managed comfortably by two people. Operations are completely computerized using the Emergency Information System. Displays are managed with commercially produced status boards by PASE Incorporated, standard maps, and ExlErate software. Weather information is gathered through DTN and HURTRAK and HURREVAC. Communications include public safety and amateur radios.

During mobilization and deployment the deployable units are managed directly by the Emergency Support Center. However, once the Coordination Team is operational, it assumes responsibility for collating and forwarding reports and requests to and receiving information from the Emergency Support Center. Central to this process is the use of standard formatted reports. These templates record information in the same order for alerting messages, mission taskings, and regular reports. This not only speeds the communications process, especially when messages by telephone or radio, but also ensures that key information is not accidentally overlooked.

Catastrophic Casualty Planning

In 1988 the Report of the Governor’s Task Force on Emergency Medical Response Disaster Planning assigned responsibility for managing regional response to very large events to the five regional Level I Trauma Centers. This structure served as the basis for the development of a Plan for Coordination of Health and Medical Response to Catastrophic Casualty Events (Commonwealth of Virginia 1998), specifically designed to provide a framework for managing events that generate 500 or more patients. The catastrophic casualty plan envisions four basic cases (see Figure 6), based on the severity of the incident.
The catastrophic casualty plan was tested in MEDEX 98, a state level medical tabletop exercise. That exercise highlighted the need for a means of tracking individual patients as they move through the system. TRANSAID, a National Disaster Medical System patient tracking software developed by Ed Summerfield of the Castle Point Veterans Affairs Medical Center, was adopted as the application to be used in this role in the Emergency Support Center, the state Office of Emergency Medical Service’s emergency operations center. Subsequently TRANSAID was tested in a 1999 patient tracking exercise conducted by Old Dominion Emergency Medical Services Alliance regional hospitals, successfully recording patient movements and status for 200 patients in a 45 minute period.

Figure 6. Virginia Catastrophic Casualty Plan Responses Based on Incident Severity

<table>
<thead>
<tr>
<th>Situation</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region capacity not exceeded</td>
<td>regional command hospital manages patient allocation</td>
</tr>
<tr>
<td>Region capacity is exceeded, but patients can be</td>
<td>coordination between the two regions determines to where patients will be transported</td>
</tr>
<tr>
<td>accommodated in the neighboring region</td>
<td></td>
</tr>
<tr>
<td>Patients will have to be shared between more than</td>
<td>Emergency Support Center coordinates patient allocation</td>
</tr>
<tr>
<td>two regions</td>
<td></td>
</tr>
<tr>
<td>Patient numbers exceed state bed capacity</td>
<td>patients transferred to airlift and hospital component of the National Disaster Medical System</td>
</tr>
</tbody>
</table>

Note: The Emergency Support Center is the state health and medical function (ESF-8) emergency operations center located in the Office of Emergency Medical Services.


The final step in managing disasters that Virginia has addressed is the course of action needed when patients exceed the statewide system capacity. There are credible scenarios in which more patients would be generated than in-state beds could accommodate. As a result, state level mass casualty planning incorporates transfer of patients to the National Disaster Medical System. Virginia practiced receipt of patients in BRIGHT STAR 99, an airlift exercise coordinated by the Central Virginia Federal Coordinating Center in May 1999. However, there
is a clear shortfall in outbound patient movement planning with no identifiable federal pre-
planning with state health officials.

LESSONS LEARNED

The Technical Issues

Communications

Communications are widely accepted as being the single common failure in every exercise and disaster (Fugate 2000). At a presentation at Disaster 2000, an annual conference sponsored by the Florida Emergency Medicine Foundation, I asked the 150 participants in a general session to raise a hand if they had participated in a disaster in which communications was not a problem. Although hardly a scientific survey, it was interesting that not one hand was raised (Green 2000).

Virginia has a standard Very High Frequency (VHF) Frequency Modulated (FM) disaster and mutual aid frequency, 155.205 MHz. Required to be in every ambulance under the Board of Health’s regulations (Commonwealth of Virginia 1990), in reality, as older VHF systems are replaced, many agencies remove this equipment. Enforcement of the requirement has proven to be the only means of ensuring that emergency medical services agencies have the technical capability to communicate on scene.

Long distance, wide area communications continue to present difficulties. The experience of the response to flooding in the city of Franklin in the aftermath of Hurricane Floyd convinced the Office of Emergency Medical Services of the need to purchase high frequency radios for its Task Forces to provide a capability for state wide communications. Reliance on other organizations, such as amateur radio groups, to provide support to emergency medical services response among a host of other taskings is unrealistic.

Exercises

Exercises are a critical portion of any effort to develop a response system. They provide an opportunity to train personnel in their roles in the context of a scenario, assist in evaluating plans and procedures, and provide the recency of training vital to high quality performance of skills. Existing practice in which exercises are annual events at best, and less frequent in most cases, is simply inadequate to assure performance in unusual events. Nordberg (1991, 44) quotes Dr. Norman McSwain, speaking in the context of experience from the 1991 Persian Gulf War, on the frequency of hospital disaster drills:

The way to make this work efficiently is to have a drill once a week. I know everyone says that’s an impossibility; that may be correct, but if we’re going to practice only every 6 months, we have to accept the fact that we’re not going to do it well.

Weekly is not practical for a state level program. However, a monthly program that includes internal staff drills, tabletop exercises, participation in other state and local exercises,
drills of specific functions, deployment exercises, etc., is practical. More than practical, it is necessary to maintain system interest and proficiency.

**Horses and Water**

There is an old saying that “you can lead a horse to water, but you cannot make him drink.” This saying is remarkably applicable to disaster preparedness, especially in a state where the regulatory climate is founded on non-intrusiveness and a relatively high degree of local government autonomy. World-class programs will not be adopted by all participants, even when clearly in everyone’s best interest, and even when they appear to require minimal effort. Time, staff availability and interest, funding, personalities, resistance to state intrusiveness, denial, and a host of other reasons contribute to this.

Under these conditions the disaster planner must accept certain realities. First, disasters are unusual events. As a result we practice disaster response procedures on an, at best, infrequent basis. Therefore, performance is rarely optimal. The parts of the system that do participate in pre-event planning and have some understanding of how the system is supposed to work will, in large measure, perform imperfectly. Second, some portions of the system will not understand their roles at all, and will come to the event attempting to operate in the same manner that they do on a routine, daily basis. The closer structure and procedures are to the normal, the better performance will be. As a result system planning and design must allow for significant disruptions at the start of an incident and lead times to educate participants as the event is happening.

**Budget**

The development of the Virginia system has been done on a minimal budget, an annual average of $35,000 plus staff salary for one mid-level Program Manager. Maximum use has been made of volunteers, in planning and program development, as instructors, and in emergency response and management roles. For example, the Disaster Response Committee of the Governor’s Emergency Medical Services Advisory Board has been deeply involved in developing mass casualty training.

**Continuity and Commitment**

Possibly the greatest challenge to development of an effective system is the combined factors of continuity and commitment. In developing state level volunteer Emergency Medical Services Task Forces, the Office of Emergency Medical Services has worked with a different Chief Rescue Officer of the Virginia Association of Volunteer Rescue Squads each year. One opposed the concept, two simply did not speak to the Office at all, and one has been a strong supporter. Each year the political landscape in this relationship has the potential to change. Individual participating agencies, such as Volunteer Rescue Squads also may change their leadership annually. Given the turbulence in hospital administrations, changes in agendas and interest levels can be as rapid in that element of health care response to disasters. Maintaining agency and individual interest in and commitment to participation in the system requires constant effort.
WORKS CITED


