

## **Freelance Response to the Site – Medical Staff Option of Choice?**

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### **Introduction**

Over the past decade, the medical response to catastrophic events has diverged from that used on a day to day basis for the management of the routine trauma, cardiac emergencies, stroke, etc. – the serious problems that present to an emergency department. In spite of the existence of a robust pre-hospital emergency medical services system that operates under medical direction, in two major terrorist events, the Murrah Federal Building bombing and the 2001 attack on the World Trade Center, medical staff members who normally operate in a hospital environment self-dispatched to the scene and set up freelance medical operations. Is this a good use of medical staff, and should such freelancing become an accepted mode of operation?

The pre-hospital emergency care standard in the United States has evolved over the past 40 years - from untrained ambulance drivers driving vehicles that were marginally distinguishable from hearses to robust integrated systems of communications, emergency medical dispatch, basic and advanced life support crews in highly capable vehicles, detailed protocols, and medical direction (Jelenko and Frey 1976; Kuehl 1994). The result is the best resourced system of any nation, and provides arguably the best pre-hospital care in the world for trauma victims and cardiac patients. The United States system, unlike those of some other countries (the United Kingdom, Russia, and France being examples in which physicians have attended at the scene) (Snook 1974; Sancton and MacLeod 1998; Bruhnke 2002), has stressed the use of paramedics in the field to provide appropriate assessment, stabilization, and transport, and physicians in hospitals to provide definitive care.

The pre-hospital care system has expended considerable effort in the development of effective organizational models for disaster response, in most cases defined in the context of mass casualty incidents. These models typically include: an organizational structure described by commonly accepted terminology; standard protocols for the establishment of the structure; common patterns for accessing, assessing, stabilizing, and transporting patients; standard communications procedures; common forms and displays for managing information; common patient assessment and care records; and standard procedures for interfacing with hospitals to distribute patients from the incident scene. Guiding these models is the need to achieve the best outcomes for the most patients, by matching the correct priority for treatment and transport to the right patient and sending that patient to the most appropriate facility. The proficiency needed to do this is only gained by applying a standard system to every incident (Anderson n.d.; Butman 1982; Auf der Heide 1989; United States, Federal Emergency Management Agency, United States Fire Administration, National Fire Academy 1995; National Fire Service Incident Management System Consortium Model Procedures Committee 1996; Green et al. 1999; National Fire Protection Association 2000).

Although developing the level of expertise required to rapidly establish an incident command system on scene and effectively manage patient flow is not easy, the results can be impressive. At the Murrah Federal Building bombing in 1995, the first emergency medical services resources were on scene in 2 minutes, and the incident command medical structure was established in 6 minutes, 26 seconds. The first ambulances with patients reported en route to hospitals in 25 minutes, 42 seconds (The City of Oklahoma City, Document Management Team 1996). Considering the level of the event and the times normally required to process and package patients on scene, this is a superior performance.

### **The Integration Imperative**

There is an increasing recognition that in an environment of increasingly devastating bad events, hospital disaster planning must be integrated with local, and even state level, emergency medical services and

emergency management emergency operations planning and incident management systems (Siegelson 2002). For those driven only by standards, this recognition is clearly starting to make its way into the Joint Commission's environment of care standard EC.1.4. (Joint Commission on the Accreditation of Healthcare Organizations 2001). However, operationally the costs of failed integration are significant enough to merit consideration in their own right:

- During the early stages of the response to the Murrah Federal Building response scene and hospital coordination broke down due to communications failures, some resulting from a failure of hospitals to follow the existing communications plan (The City of Oklahoma City, Document Management Team 1996). For a prolonged period the medical facilities were not able to identify the scene incident command structure (Manzi, Powers, and Zetterlund 2002). As a result one neurosurgeon assessed the disaster by looking out the window at the stream of wounded arriving at her hospital (Neurosurgeons Pressed Into Service During Oklahoma Bombing Disaster 1995). This problem was finally alleviated when police officers were dispatched to emergency departments to turn on the HEAR radio systems (The City of Oklahoma City, Document Management Team 1996).
- During the same event, multiple duplicate requests for equipment and supplies were received by facilities from different units on scene, leading to what could have become a significant resource depletion (Manzi, Powers, and Zetterlund 2002). Some of these requests resulted from physicians and nurses establishing triage sites separate from the Triage Unit established by incident command. Dispensaries were established by various groups in the impact area without communication or coordination (Oklahoma, Department of Civil Emergency Management 1995).
- In the immediate aftermath of the attack on the Pentagon on September 11, 2001, the Medical Colleges of Virginia Hospitals cleared beds and cancelled surgical procedures without a government-to-government request to accept disaster victims – at a cost reported in the press of \$1,200,000 (Smith 2001).

- During the same event, hospitals in the District of Columbia contacted a trauma center, and, through that facility, state emergency medical services officials in Virginia, reporting a critical need to transport burn patients from Washington to Virginia hospitals. After an eight hour long effort to identify requirements, coordinate vehicle movement with State Police and Department of Transportation, and forward stage emergency medical services task forces from across the state, no burn patients materialized (Commonwealth of Virginia, Department of Health, Office of Emergency Medical Services 2001).

Today none of these are desirable outcomes. Most managers would recognize that resources include time, funds, and information – in each of the above cases, breakdowns in integration wasted resources, resources that could better have been applied otherwise in the resolution of the disaster. As our understanding of disaster evolves, and as it is shaped by the continuing demands of terrorism, we increasingly recognize that the shortage of resources, or perhaps more precisely the failure to have the right resources in the right place, is a critical component of what defines a disaster.

### **But What Actually Happens?**

In an emergency, the urge to do something can become almost overwhelming for those who do not immediately have an assignment that involves response to the event. As the size, complexity, and publicity associated with the emergency increases, the pressure for action increases. Statements by emergent volunteers have stressed an important point in this process – as the incident increases in size, communications break down, and the volunteers are unable to confirm what is happening (Jacobsen et al. 2001). So they go. When the catastrophe is catastrophic enough, it appears to generate its own dynamic that justifies almost any response, whether helpful or not.

For example, in the hours after the attacks of September 11th, as I staffed the ESF-8 health and medical desk in the Virginia Emergency Operations Center, the emergency medical services chief of a city in

Virginia informed me that his entire department was going to New York City because New York desperately needed his ambulances. I suggested that (1) New York was awash in ambulances, (2) New York was requesting that resources stay home, (3) it was questionable whether he could even get there, and (4) considering the entire dimensions of the attack were unclear, it might be wise not to leave his city without coverage. The answer was unprintable and abusive – his department was going to New York because they, and only they, could save the City.

In the fire service, such action independent of assignment, and uncoordinated with the management of the response, is termed freelancing (or self-dispatching when it involves mobilization of unassigned units), and is recognized as the source of considerable risk both to the freelancer and to the management of the incident (Brunacini 1985; Coleman 1997; Maguire 2001). Some examples make the point:

- In the August 1988 crash of a Boeing 707 at Dallas-Fort Worth International Airport, units from neighboring jurisdictions set up their own triage site outside the airport. As a result, not only could the airport response not account for all of the victims, but airport responders also were endangered by continuing to attempt to rescue those who had already been evacuated (EMS: An Integrated Part of the Disaster Response Family? 2000).
- The rapid response of large numbers of volunteers to the scene of the Murrah Federal Building in Oklahoma City in 1995 created major management problems for the incident command system and slowed patient movement. Effective accountability of who was on the site was not actually established until after evacuation for a bomb scare. At one point early in the event a television broadcast requested that all available medical personnel report to the building scene exacerbating the volunteer management problem (The City of Oklahoma City, Document Management Team 1996).
- At Oklahoma City the establishment of triage areas in addition to the Triage and Treatment Units established by the Incident Command System caused a breakdown in patient regulation (Oklahoma, Department of Civil Emergency Management 1995).

- On September 11th, Battalion Chiefs freelanced, Fire Companies and Emergency medical Services units freelanced, off duty personnel freelanced, and even retired personnel freelanced. As a result considerable confusion existed in the aftermath of the collapses of the towers as to who had been on scene and who was lost (TriData Corporation 2002; Von Essen and Murray 2002; Picciotto and Paisner 2002; McKinsey & Company 2002; Smith 2002). Freelancing almost certainly increased the emergency services' death toll.
- Large numbers of medical personnel in a wide variety of medical specialties, many lacking knowledge of disaster or pre-hospital procedures, responded to the World Trade Center location (Jacobsen et al. 2001; McKinsey & Company 2002).
- Some volunteer medical responders to the World Trade Center had to be evicted because they posed a hazard both to themselves and to ongoing recovery operations (Clair 2002).
- At least one ambulance responding to New York City from a distant jurisdiction was involved in an accident en route. Another agency self-dispatched, leaving its jurisdiction without ambulance coverage. One ambulance responded from Texas (Clair 2002).
- And the NJ-1 Disaster Medical Assistance Team received orders to deploy to New York City at 1:00 pm on September 11th (McCarthy 2001). NJ-1 made the deployment without its medical director, who was freelancing at the World Trade Center site, but whose description of his actions includes the comment that “they seemed to perform splendidly in my absence” (Jacobsen et al. 2001, p. 25) ... indeed.
- Although it took almost two weeks to do so, the New York City Fire Department eventually managed to control freelancing by outside fire departments that wanted to work in the World Trade Center recovery, not cover City station assignments – the actual need (Smith 2002).

Fire and emergency medical services response units are used to working as teams, and personnel in these teams work together on a daily basis. They are used to working in an organized response structure, are

appropriately equipped, have the ability to communicate with each other and off-scene, have been trained in assessing the hazards a scene presents, and have and follow personnel accountability processes designed to ensure that their leaders know where they are.

These processes are not perfect, and fail on occasion, in some cases spectacularly, as noted in examples above. However, in contrast to the response of the emergency medical services, every account of the actions of volunteer healthcare responders emphasizes the pick-up nature of the effort. Photographic evidence shows individuals in scrubs or street clothes – an on-scene photograph of the emergent volunteer nurse who died from head injuries in Oklahoma City shows that she entered an unstable building with debris still falling wearing blue jeans and a sweatshirt (Irving 1995). Every account shows these emergent organizations come unprepared with equipment or supplies – and manage to develop their triage areas, treatment areas, or field hospitals by taking equipment either from their facilities (requiring transport) or from on scene emergency medical services units (Hostetler 2002). Communications depend on cell phones, further contributing to the overload of hospital telephone systems. Processes such as accountability or long term monitoring for environmental exposures are conspicuous in their absence. And patients treated still have to be accounted for and managed by the regular transportation system.

The description of the experiences of four responders, two from Canada and two from Iowa, spotlighted in a university medical center newsletter, are illustrative. Among their comments are the notes that: “the New York City Police drove us in and out of Ground Zero,” “the firefighters supplied them with gear,” and “the firefighters ... drove them the five miles to Ground Zero” (2001b, p.2). In the case of these four rescue workers, not only did they require transportation and other support services, but they also required the issue of equipment. In the balance, individual volunteers of this type may require more effort on the part of a strained system than they contribute to the resolution of the problem.

Perhaps the most interesting example of the desire to move medical staff from the hospital toward the scene has been the evolution of casualty collection points. In some cases, in jurisdictions that have significant hazards with the potential to destroy most hospitals, the creation of locations where patients can be collected for eventual out-of-area transportation (Yolo County, Communications Emergency Services Agency, Office of Emergency Services 2000), or even to which the public can bring the injured (State of Missouri, State Emergency Management Agency 2002), makes solid operational sense. However, almost every emergency medical services system in the country is aware of the location of hospitals in its community, and almost every system has capabilities that allow ambulances to communicate with the emergency departments of those facilities.

Interposing a casualty collection point between the Treatment Unit (in some cases the term Casualty Collection Point appears to be being substituted for the Treatment Unit) of the incident command system in the field (National Fire Service Incident Management System Consortium Model Procedures Committee 1996) and the hospital delays transport to appropriate care. In addition, it doubles the lift requirements for ambulances or litter teams to transport to the casualty collection point, unload, reload, and transport to a hospital, at no demonstrated improvement in care or outcomes. And yet, we see recommendations that hospitals should organize and determine how to staff and supply casualty collection points because (1) rescue units will need to know where to bring casualties and (2) organizing a casualty collection point is an excellent demonstration of participation in the community for Joint Commission requirements (accreditinfo.com 2002b).

### **The Administrative Problems**

In the environment after September 11, 2001, health care facilities undertook initiatives to allow rapid credentialing of healthcare providers to work on an emergency basis within their facilities in response to large numbers of healthcare professionals who volunteered their services in such a role (Jacobsen et al. 2001). On September 27, 2001, the District of Columbia Hospital Association published a mutual aid

agreement that provided specifically for the loan of personnel to a hospital impacted by a disaster. This agreement establishes that individuals loaned must be fully credentialed by the donor hospital – no residents, students, or personnel in training – and the only required credential at the recipient facility is their identification badge.

Other examples of approaches to such credentialing includes reciprocal credentialing between facilities in the same healthcare system (Schmidt 2002) and a variety of arrangements for the inspection and verification of credentials (accreditinfo.com 2002a). These initiatives are reasonable and are supported by the Joint Commission on the Accreditation of Healthcare Organizations (in standard MS.5.14.4.1) (2002) and by physician professional organizations (American College of Physicians - American Society of Internal Medicine, New York Chapter 2002).

The hospital based models discussed above all assume the physician is one from a nearby facility. The legal and administrative issues associated with a physician setting up and running a curbside emergency care facility on the streets, such as those done in New York City under the leadership of a Virginia physician (Hostetler 2001) or that done in Liberty Park under the leadership of an Iowa physician (2001a), are much more daunting. Can a physician from another state, not licensed in the state in which a disaster occurs, practice in that state during a disaster?

It is by no means certain that, if a state's statutes require a license issued within the state by the appropriate state agency to practice medicine on a day to day basis, these provisions are voided in a disaster to allow physicians from anywhere to practice under their home state licenses. Disasters do not automatically suspend the rule of law, and Governor's executive orders declaring a disaster are normally very specific about which regulations, rules, and statutes are suspended. In those I have seen in the past 10 years, I have never seen a reference to the waiving of licensure requirements for physicians. As might be imagined this issue has attracted attention. As an example, the 2002 Legislative Program of the New

York chapter of a medical professional association (American College of Physicians - American Society of Internal Medicine, New York Chapter 2002) included provisions to permit such practice as a public health infrastructure initiative.

It is also worth considering whether medical malpractice insurance uniformly covers this type of activity out of the hospital and the normal work setting. Does the state's Good Samaritan statute or disaster and emergency services law provide protection? And what of other associated liability exposures? There is fertile ground here for both attorneys and risk managers, both of whom I would want involved in my decision making were I a physician inclined to undertake such an effort.

### **The Changed Environment**

In the environment of terrorism, freelancing by medical staff at the scene is becoming an increasingly dangerous form of adventurism. We already know that buildings damaged by conventional explosion and impact may be unstable. Medical staff normally are not trained in recognition of these hazards and almost never have helmets and turn-out gear, the accepted minimum personal protective equipment. Two examples of the threat should suffice. Note that in each of these cases, the collapses were not generated by intentional secondary devices aimed at rescuers:

- During the first hours of the Murrah Federal Building response, a nurse entered the damaged building as a volunteer emergent responder and received a fatal head injury from falling debris (Irving 1995).
- The sequential collapses of World Trade Center Buildings 1, 2, 3, and 7 on September 11th – the collapse of the North and South Towers resulted in the single largest death of law enforcement and fire personnel in any event in United States history, killing people around as well as in the buildings. The last collapse of Building 7 occurred at 5:20 pm when several thousand volunteers and responders were on scene working on the rubble pile of Buildings 1, 2, and 3 – in this case no one was killed (Langewiesche 2002).

However, secondary devices represent a known threat and one that has been used by terrorists in the United States (United States, Department of Justice 1998). The single most effective tactic to limit exposure to secondary devices is to limit the number of people exposed in the potential kill zones. Doctors and nurses represent a high value resource to risk in a kill zone without convincing evidence that such exposure results in significantly higher numbers of lives saved.

The problem becomes more complex when we consider an event involving nuclear, biological, or chemical agents. Anyone can see or hear or feel a building collapse, and even someone untrained in engineering assessment of damaged buildings can apply good judgment to determine, at some basic level, the threat a potential collapse poses. To some degree, careful setup and dispersal can reduce the threat posed by a secondary conventional device if medical professionals are trained in the basic combat skills of recognizing kill zones. However, chemical agents, especially those with delayed onset of signs and symptoms, and biological agents do not necessarily present with the obvious threat of a block of concrete suspended by a single piece of rebar. If physicians and nurses rush to the scene of an event that involves two or more categories of weapons (for example, an explosive device and a chemical agent release), are they equipped and prepared to identify the agent and don protective equipment?

For the purposes of discussion, it may be worthwhile to play the following decision scenario based on actual events at the World Trade Center. In sequence:

- Aircraft hit both the North and South Towers of the World Trade Center between 0845 and 0903 causing their collapse at 1029 and 0950, respectively (TriData Corporation 2002).
- The senior leadership, all the specialized rescue resources, and the hazardous materials unit of the New York City Fire Department die at their posts (McKinsey & Company 2002; Smith 2002).

- Effective command on scene stops (Picciotto and Paisner 2002; Von Essen and Murray 2002). Effective policy making and emergency management coordination of support operations is also disrupted by the evacuation of the City emergency operations center (Ripley and Pooley 2001).
- Volunteers, including highly trained emergency physicians, cardiologists, and nurses, rush to the scene. The physicians improvise and set up a 40 bed field hospital within 2 blocks of the center of the collapse by 1115. A second, physician staffed triage site was established at a different location (Hostetler 2001; Hostetler 2002). To this point the scenario represents actual events as reported by a variety of sources.
- For discussion - by 1700 specialized resources have reached the scene, sampled the environment, and identified that the impact area contains a secondary agent - whether radiological or chemical makes no difference for the decision scenario – in sufficient quantity to have both contaminated and poisoned the volunteers who have been working on site, including the complete staff of the field hospital and the volunteer staffed triage site.

In the big scheme of thousands contaminated and suffering from the physiological effects of the agent used, the 50 or so physicians and nurses at the two medical sites are insignificant. However, the impact on the medical system from these cases would be significant in psychological terms. And in a truly scarce resource environment, the loss of 50 emergency and trauma medicine specialists could have an impact on patient specialist care and system throughput, not to mention the loss of countless other healthcare staff who were at other points on scene. It is up to the reader to decide whether a “few casualties ... all with minor injuries” treated (the figure reported in a press interview by the field hospital’s leader) (Hostetler 2001) justifies the risk.

### **Some Concluding Thoughts**

Medical care for disaster victims is predominantly provided by hospitals (Siegelson 2002) – regardless of what is done pre-hospital, whether on scene by the emergency medical services or by physician managed

ad hoc field hospitals, clearing stations, or casualty collection points. The efficacy of emergent systems (I use emergent in the sense of emerging in the context of a disaster, the accepted usage in emergency management, not in the sense of providing emergency care), which delay the movement of patients from the scene to appropriate hospitals, has not been authoritatively demonstrated. Therefore, the adoption of models which interpose such structures in the chain of survival in large, destructive events should be approached with caution, especially if it is done in the heat of the moment out of a desire to do good.

Medical response to the disasters must be a coordinated effort involving hospital staffs, the broader physician community, pre-hospital emergency medical services, supporting heavy rescue resources, and the emergency management system. Uncoordinated efforts are inefficient, and on-scene freelancing both exposes medical staff to injury or death and creates resource costs for the existing structured response system of the community. There may well be a need for intermediate austere medical facilities to stabilize patients who must be transported significant distances due to overloading of closer facilities; certainly this model was adopted at Oklahoma City (The City of Oklahoma City, Document Management Team 1996). Equally, there may be a need for such facilities to treat casualties with minor injuries to reduce the load on transportation resources and emergency departments. And there is clearly a need in some communities for planning for austere field facilities in events of such a catastrophic nature that they destroy the local and surrounding medical infrastructure. The key point is that such efforts must be planned, tested, exercised, and validated as part of hospital, emergency medical services, and community disaster exercises. Then the resulting mature system must be included in everyone's plans.

## **References**

EMS: An Integrated Part of the Disaster Response Family? March 2000. [<http://www.emergency-management.net/pub6.htm>]. 5 December 2002.

Neurosurgeons Pressed Into Service During Oklahoma Bombing Disaster. Summer 1995. [American Association of Neurological Surgeons Bulletin](#).

UI Health Care surgeon cares for injured in WTC attack. [EMS Update](#) 2001a. 22, 3: 3.

- WTC rescuers prepared for casualties -- that never came. EMS Update 2001b. 22, 3: 1-2.
- accreditinfo.com. Accreditation Tip of the Week: Prepare for disasters with an emergency credentialing policy. February 2002a. [[http://www.accreditinfo.com/news/tip/autotip-arc.cfm?content\\_id=20219](http://www.accreditinfo.com/news/tip/autotip-arc.cfm?content_id=20219)]. 5 December 2002.
- accreditinfo.com. Accreditation Tip of the Week: Casualty collection points are a good demonstration of community involvement. April 2002b. [[http://www.accreditinfo.com/news/tip/autotip-arc.cfm?content\\_id=21657](http://www.accreditinfo.com/news/tip/autotip-arc.cfm?content_id=21657)]. 5 December 2002.
- American College of Physicians - American Society of Internal Medicine. New York Chapter. 2002 Legislative Program. [<http://www.acponline.org/chapters/ny/2002leg.pdf>]. 5 December 2002.
- Anderson, Paul B. n.d. Rural Major EMS Incident Scene Management Manual. Lincoln, NE: Lincoln Medical Education Foundation.
- Auf der Heide, Erik. 1989. Disaster Response: Principles of Preparation and Coordination. St. Louis, MO: C. V. Mosby Company.
- Bruhnke, Louis. April 2002. Overcoming the Inertia: EMS in Siberia, Part 1. JEMS: 97-9.
- Brunacini, Alan V. 1985. Fire Command. Quincy, MA: National Fire Protection Association.
- Butman, Alexander M. 1982. Responding to the Mass Casualty Incident: A Guide for EMS Personnel. Westport, CT: Emergency Training.
- Clair, John J., 2002. Volunteer EMTs and paramedics at disasters: Experiences from the World Trade attacks. 4. Columbus, OH: National Registry of Emergency Medical Technicians.
- Coleman, John F. 1997. Incident Management for the Street-Smart Fire Officer. Saddle Brook, NJ: PennWell Publishing Company.
- Commonwealth of Virginia. Department of Health. Office of Emergency Medical Services., 2001. September 11, 2001 Incident log. Richmond, VA.
- District of Columbia Hospital Association. 2001. Mutual Aid Memorandum of Understanding. Washington, DC: District of Columbia Hospital Association.
- Green, Walter G. III and others. 1999. Virginia Mass Casualty Incident Management Module II: Operations Level. Richmond, VA: Virginia Office of Emergency Medical Services.
- Hostetler, A. J. 12 September 2001, Local expert helps out: Physician tends NYC casualties. Richmond Times-Dispatch (Richmond, VA), Area/State.
- \_\_\_\_\_. 11 March 2002, A simple plan of attack: Local doctor said it paid off in NYC. Richmond Times-Dispatch (Richmond, VA), Area/State.
- Irving, Clive. 1995. In Their Name. New York, NY: Random House.
- Jacobsen, Sheldon and others, 2001. Recollections of September 11. XIII, 6: 10, 24-5. Lansing, MI: Society of Academic Emergency Medicine.

- Jelenko, Carl and Charles F. Frey. 1976. Emergency Medical Services: an overview. Bowie, MD: Robert J. Brady Company.
- Joint Commission on the Accreditation of Healthcare Organizations, 2001. Using JCAHO standards as a starting point to prepare for an emergency. Joint Commission Perspectives 21, 12: 4-5.
- \_\_\_\_\_, July 2002. New Emergency Privileging Hospital Standard. Joint Commission on the Accreditation of Healthcare Organizations. JCAHOnline.
- Kuehl, Alexander E. 1994. Prehospital Systems and Medical Oversight. 2nd ed. St. Louis, MO: Mosby-Year Book, Inc.
- Langewiesche, William. 2002. American Ground: Unbuilding the World Trade Center. New York, NY: North Point Press.
- Maguire, Phyllis, December 2001. Are you prepared to respond to bioterrorism? ACP-ASIM Observer.
- Manzi, Catherine, Michael J. Powers, and Kristina Zetterlund. 2002. Critical Information Flows in the Alfred P. Murrah Building Bombing: A Case Study. Washington, DC: Chemical and Biological Arms Control Institute.
- McCarthy, Michael. 22 September 2001. Attacks provide first major test of USA's national antiterrorist medical response plans. The Lancet 358, no. 9286.
- McKinsey & Company. 2002. Increasing FDNY's Preparedness. New York, NY: Fire Department of the City of New York.
- National Fire Protection Association. 2000. NFPA 1561 Standard on Emergency Services Incident Management System 2000 Edition. Quincy, MA: National Fire Protection Association.
- National Fire Service Incident Management System Consortium Model Procedures Committee. 1996. Model Procedures Guide for Emergency Medical Incidents. Stillwater, OK: Fire Protection Publications.
- Oklahoma. Department of Civil Emergency Management . 1995. After Action report: Alfred P. Murrah Federal Building Bombing 19 April 1995 in Oklahoma City, Oklahoma. Oklahoma City, OK: Oklahoma Department of Civil Emergency Management.
- Picciotto, Richard and Daniel Paisner. 2002. Last Man Down: A Firefighter's Story of Survival and Escape from the World Trade Center. New York, NY: The Berkley Publishing Group.
- Ripley, Amanda and Eric Pooley, 2001. "We're Under Attack:" Near misses, dead phones, last words: an oral history of 9/11 by Giuliani and his aides. Time. 158, 28: 76-87.
- Sancton, Thomas and Scott MacLeod. 1998. Death of a Princess: The Investigation. New York, NY: St. Martin's Press.
- Schmidt, Terry L. 2002. When Disaster Strikes - Lessons Learned: Preparing for the Future. Expecting the Unexpected: Moving at the Speed of Light: American Academy of Medical Administrators 45th Annual Conference. Des Plaines, IL: American Academy of Medical Administrators.
- Siegelson, Henry J. 2002. Medical Response against Terrorism: Training and Education. Journal of

Prehospital and Disaster Medicine, Internet Edition 17, 1.

Smith, Dennis. 2002. Report from Ground Zero. New York, NY: Viking.

Smith, Tammie. 14 November 2001, MCV recoups some of Sept. 11 losses. Richmond Times-Dispatch (Richmond, VA), Area/State.

Snook, Roger. 1974. Medical Aid at Accidents. London, United Kingdom: Update Publications Limited.

State of Missouri. State Emergency Management Agency. Casualty Collection Points. [<http://www.sema.state.mo.us/injur.htm>]. 5 December 2002.

The City of Oklahoma City. Document Management Team. 1996. Alfred P. Murrah Federal Building Bombing April 19, 1995: Final Report. Stillwater, OK: Fire Protection Publications.

TriData Corporation. 2002. The Role of the Volunteer Fire Service in the September 11, 2001 Terrorist Attacks: Final Report. Washington, DC: National Volunteer Fire Council.

United States. Department of Justice. Eric Rudolph Charged in Centennial Olympic Park Bombing. October 1998. [<http://www.usdoj.gov/opa/pr/1998/October/477crm.htm>]. 5 December 2002.

United States. Federal Emergency Management Agency. United States Fire Administration. National Fire Academy. 1995. Incident Command System for Emergency Medical Services: Student Manual. Washington, DC: U. S. Government Printing Office.

Von Essen, Thomas and Matt Murray. 2002. Strong of Heart: Life and Death in the Fire Department of New York. New York, NY: HarperCollins Publishers Inc.

Yolo County. Yolo County Communications Emergency Services Agency. Yolo County Office of Emergency Services. 2000. Emergency Plan. Medical Annex, 247-57. Woodland, CA: Yolo County.

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