



## COMMENTARY

# Needed: A National Program for Disaster Medical Preparedness

Leo V. Bosner,\* Larry S. Jordant†

**While the United States has remained relatively unscathed by true mass casualty disasters, such incidents have taken place in other countries, and have clearly shown how extreme loss of life can suddenly occur in modern society. This paper examines the need for a federal medical disaster program in the United States, reviews some of the federal activities in this area over the past decade, and outlines recommended directions for the future.** [PSRQ 1991;1:160-164]

**D**uring the past few years, the United States has received numerous lessons and warnings regarding disaster preparedness. While the U.S. has remained relatively unscathed, major disasters, from earthquakes to nuclear accidents, have taken place in Latin America, the U.S.S.R., and elsewhere. These incidents have clearly shown how extreme loss of life can suddenly occur in modern society.

Moreover, in many cases it appears that lives have been placed at risk or even needlessly lost because of a lack of preparedness [1-4].

The mass casualty response problem is qualitatively different from most U.S. disaster experience. Most disasters in the U.S., including Hurricane Hugo and the Loma Prieta earthquake, have entailed property damage, dislocation, and some deaths and injuries, but not overwhelmingly large numbers of serious but treatable injuries. In a major earthquake or other disaster, however, the U.S. might find itself suddenly confronted with a mass casualty situation.

If a large-scale disaster causing mass casualties were to occur in the U.S., time-sensitive needs would come into play. People whose homes had been damaged could wait in temporary shelter for days or even weeks for repair or replacement of their houses. Seriously injured people could not wait; they

0051-2438/1991/0103-0160\$03 00/0

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\* LVB is an Emergency Management Specialist with the Federal Government, Washington, D.C.

† LSJ died in February 1991. He was the Florida State EMS Director and President of the National Association of State EMS Directors.

Address correspondence and reprint requests to Leo V. Bosner, P.O. Box 44950, Washington, DC 20026.

This material was presented at the Seventh World Congress on Emergency and Disaster Medicine, Montreal, Quebec, Canada, May 15, 1991. This paper expresses the authors' personal opinions, and does not represent official policy of the U.S. Government or of any other agency cited.

would have to be located and extricated (if necessary) and would need to receive appropriate medical treatment by a certain time, usually measured in minutes and hours.

It is simply not sufficient for the U.S. to have enough emergency medical resources for such an event. The resources must also be *prepared, organized, and accessible* enough to be deployed quickly and effectively, or they are of little value in saving lives.

Planning on this scale requires national leadership and coordination. Medical and allied professionals throughout the U.S. are supportive of disaster planning and will participate in efforts to improve it, but several conditions must be met.

First, the federal government must take the lead. Emergency preparedness is a national concern, and no single jurisdiction will continue to spend its resources to resolve a problem for the U.S. Second, the effort must be professionally credible. Although federal leadership is needed, no true professional will support a plan that he or she does not believe in, simply because a federal official says that this is the federal plan. Finally, the effort must interface with existing emergency preparedness programs.

The federal government must restructure and reorganize its medical disaster planning to make realistic and effective use of existing resources if lives are to be saved in a mass casualty situation. Unfortunately, this is not likely to happen until political pressure forces the government to do so.

## HISTORY

During the early 1980s, the federal government began taking definitive steps to address the mass casualty preparedness problem at two levels: improved federal response, and improved state and local response.

At the federal response level, the government began working to develop the National Disaster Medical System (NDMS) [5]. This system would be a national network of 100,000 hospital beds and 450 Disaster Medical Assistance Teams (DMATs) poised to provide a coordinated federal response to either a catastrophic natural disaster, such as a massive earthquake, or large numbers of military casualties returning from an overseas conventional conflict.

The federal government also undertook a project

to improve the capability of state and local emergency medical resources to function as effectively as possible on their own during the minutes, hours, or days following a disaster [6,7].

Both of these efforts got off to promising starts. NDMS was developed by the U.S. Public Health Service (PHS) along with the Department of Defense, the Veterans Administration, and the Federal Emergency Management Agency (FEMA). NDMS was generally well received around the country, although some questioned how well it was being coordinated with existing emergency medical services (EMS) and disaster response systems.

The effort to improve state and local capabilities was also well received. From 1983 to 1988, FEMA either sponsored or cosponsored more than a half-dozen national workshops whose invited attendees included, among others, representatives from the American College of Emergency Physicians, the American Hospital Association, the American Red Cross, the Emergency Nurses Association, the International Association of Fire Chiefs, the National Association of EMS Physicians, the National Association of EMTs, and the National Association of State EMS Directors as well as representatives from FEMA, the Department of Defense, the U.S. Public Health Service, and the Veterans Administration. These workshops brought together leading EMS experts to advise on the direction to be taken.<sup>1</sup> On the basis of that advice, FEMA undertook ambitious projects to improve both prehospital and in-hospital responses to mass casualty incidents (MCIs) [6,7], and the FEMA Director promised to set up an office in FEMA exclusively responsible for EMS programs. (Statement made on January 8, 1987, by FEMA Director Julius W. Becton, Jr., at a FEMA-sponsored EMS workshop at the National Emergency Training Center, Emmitsburg, Maryland and cited in a

<sup>1</sup> The workshops included the 1) Emergency Medical Services Workshop, National Emergency Training Center (NETC), Emmitsburg, MD, August, 1983; 2) Planning Conference on Emergency Health and Medical Training for Disasters and Mass Casualty Incidents, NETC, Emmitsburg, MD, November 28-30, 1984; 3) Follow-up Workshop on Disaster Health and Medical Planning, NETC, Emmitsburg, MD, August 7-9, 1985; 4) National Symposium on Hospital Disaster Planning (in conjunction with Akron General Medical Center), Akron, OH, November 13-15, 1985; 5) Medical Response to Disaster (in conjunction with the Veterans Administration, the New York State Department of Health, and the New York City Health and Hospitals Corporation), Northport, NY, September 5, 1986; 6) EMS Workshop, FEMA Issues Seminar, NETC, Emmitsburg, MD, January 7-9, 1987; and 7) Conference of State Directors of Emergency Medical Services and Emergency Management Services, NETC, Emmitsburg, MD, April 25-27, 1988.

follow-up letter to General Becton from Ms. Susan D. McHenry, Director, Division of Emergency Medical Services, Virginia Department of Health, Richmond, VA.)

## PROBLEMS DEVELOP

In spite of these early steps, both NDMS and the FEMA initiatives had begun to falter by the late 1980s. By 1988, after five years of effort, scarcely two dozen of the projected 450 DMATs had been organized, and the readiness of some of these was questionable. Although NDMS had enrolled 100,000 hospital beds, they had followed up with little or no training for hospital personnel. Increasingly, questions were being raised about the value of NDMS exercises for hospitals and about the state of federal disaster medical preparedness [8,9].

In 1987, FEMA terminated its prehospital and in-hospital projects. On June 30, 1987, FEMA's EMS project officer was reassigned to other duties. After that date, FEMA no longer participated in activities on the Committee on National Voluntary EMS Standards, which, with support from FEMA, had been developing a national standard for prehospital response to mass casualty incidents. A parallel effort to develop national guidelines for hospital disaster planning was discontinued, and funds allocated to that project were reprogrammed by FEMA. Action was also suspended on other recommendations FEMA had received, and the director's commitment to a single office responsible for EMS in FEMA was never fulfilled. At a FEMA-sponsored workshop in 1988, a number of state EMS directors voiced their concerns about FEMA's cutback on EMS activities (letter to FEMA Director Becton, March 22, 1988, from Larry Jordan, President, National Association of State EMS Directors). After that, FEMA convened no further workshops of state EMS directors.

At first, these actions went largely unnoticed outside of the emergency preparedness community, but in 1989, Hurricane Hugo and the Loma Prieta earthquake abruptly reminded Americans of their vulnerability to nature. FEMA's problems in organizing its own disaster response suddenly exposed FEMA to very negative publicity [10-15].

In 1991, the United States became engaged in a war in the Middle East. Medical personnel from across the country offered to help NDMS receive and treat returning wounded. In numerous cases,

their offers of help were rebuffed, and many who already belonged to NDMS suddenly found that there was a complete lack of planning [16,17].

In all cases, Americans were extremely lucky: Hurricane Hugo caused widespread property damage, but little loss of life; the Loma Prieta earthquake did not demolish major urban centers, but was centered mainly in rural areas; and the war in the Middle East produced an astonishingly low number of American casualties.

Despite this good fortune, the lesson was clear: the crises had come and neither FEMA nor NDMS had been ready.

## A NEED FOR IMPROVEMENT

After the hurricane and the earthquake, the federal government performed a number of internal audits of its operations [18]. One report claimed that federal disaster response resources were quickly exhausted (unpublished report prepared for the FEMA Advisory Board during the fall of 1989). Upon examination, however, this conclusion appears incomplete or, worse, inaccurate. At the height of these disasters, the United States had "enough" emergency personnel, supplies, and equipment scattered throughout the country; what was lacking was a system with the ability to get at, organize and mobilize them.

This is a crucial point—the U.S. never had a shortfall of resources. We had a shortfall of *management capability to use resources.*<sup>2</sup>

This management shortfall is a symptom of the unwillingness of key federal officials to work in partnership with the emergency medical community. For example, FEMA invited top EMS and emergency preparedness experts to disaster medical workshops every year from 1983 through 1988, but then generally disregarded the recommendations coming from those workshops. NDMS leadership has convened a number of meetings of its NDMS Advisory Board, but there is little evidence that the

<sup>2</sup> While certain critical supplies such as the blood supply could be depleted in a disaster, the greater problem is the planning, logistics, communications, and so forth involved in mobilizing and distributing existing resources. This point is implicitly acknowledged throughout the GAO report cited above [18], as well as in most disaster literature. See, for example, an excellent and highly readable text by Erik Auf der Heide, M.D., F.A.C.E.P., *Disaster Response: Principles of Preparation and Coordination*. St. Louis, MO: CV Mosby, 1989.

Board has had significant impact on the direction of NDMS. Instead, NDMS leadership has tried to superimpose a single centrally designed model on the U.S. while ignoring numerous alternative models in existence.

One reason for FEMA's failure to work closely with the EMS community can be traced to the preoccupation of FEMA leadership with nuclear civil defense. Another factor is the top-down management style endemic in all federal bureaucracies. A third factor is the absence of leadership on this issue of disaster preparedness. There is simply no top federal official today *demanding* that we have effective disaster medical programs.

### A NETWORKING APPROACH

Traditionally, federal agencies have approached problems within their purview by establishing and operating federally funded programs. Do veterans need health care? The government will build hospitals. Do the poor need better housing? The government will build public housing. For two reasons, this approach is not likely to address the problem at hand. First, neither the political nor the economic climate in the U.S. at this time is conducive to the establishment of large, new federal programs.

Second, and more significantly, the large scale federally funded program approach may not be appropriate to this problem for the simple reason that the problem is not mainly a lack of resources; it is a lack of organization.

The government's most effective approach to the problem of improving disaster medical preparedness would be a coordinating approach. That is, the government needs to recognize that the country abounds in EMS and other disaster response resources. There is no need to superimpose new federal organizations on top of these many existing ones. What is needed is organization and coordination of these resources so that they can be made available and mobilized quickly in a national disaster. These resources must have training and information so that they can operate quickly and effectively in a local or regional disaster. Unfortunately, the emergency management community has expended much of its energy in the battle of nuclear civil defense as opposed to natural disaster preparedness, and the emergency medical community has

not yet focused its pressure on the issue of emergency preparedness. Programs do not get developed without political pressure behind them.

### RECOMMENDATIONS FOR ACTION

The federal government needs to reexamine the question of disaster medical preparedness in the United States and, to the extent warranted by that assessment, coordinate existing programs for maximum effectiveness, and develop and implement a comprehensive program to supplant the piecemeal (and somewhat ineffective) efforts that have been under way up to now.

Projects could be instituted under such a comprehensive program at little cost, and numerous ideas have already been suggested. Many of the recommendations from the EMS workshops FEMA held from 1983 to 1988 are still valid. Recommendations have been made to develop training and technical assistance programs on mass casualty response planning; to develop national models or standards for prehospital and in-hospital disaster response; to raise the overall quality of NDMS; and to make better use of the Federal Interagency Committee on EMS. FEMA should review and act on these recommendations. FEMA should also address the many other recommendations for action that have come from the emergency medicine and EMS communities and have been published in various journals over the past few years [19-23].

We have developed very specific recommendations for action, both for FEMA and for NDMS [24]. These program-specific recommendations include:

1. *Improving coordination between state EMS offices and state civil defense offices* by sponsoring issues discussion meetings, developing improved emergency communications plans, and reviewing FEMA's training curricula for inclusion of EMS issues.
2. *Improving federal EMS program coordination* by strengthening the Federal Interagency Committee on EMS (which FEMA chairs).
3. *Thoroughly evaluating and, if necessary, redirecting NDMS* through a complete systems analysis and needs assessment to ensure that NDMS will work if needed.
4. *Developing a federal-level EMS information clearinghouse* to ensure development of, access to, and optimum use of information on ways to improve emergency and disaster medical services.

## CONCLUSION

The population of the U.S. is at risk from major disasters that could cause deaths and injuries on a large scale. EMS resources are plentiful but are not organized in such a way as to be quickly accessible or usable in a disaster.

The federal government has a unique opportunity to significantly enhance the EMS component of national emergency preparedness, and thus the protection of the U.S. population, through a building-block program aimed at the EMS community. Such an approach, targeted specifically at state and local level programs, should also complement efforts to strengthen the NDMs.

Numerous individuals and organizations are willing to work with the government voluntarily to help coordinate EMS programs nationally. By working with these volunteers, the government can develop training, guidance, information resources, and other program elements at a moderate cost with the assurance that they will be accepted and utilized effectively.

Timing is critical. On the one hand, the willingness of outside groups to work with the government presents an opportunity that coincides with the emergence of EMS as a profession, the growth of leadership in the nonfederal EMS sectors over the past decade, and the heightened awareness of our society's vulnerability to toxic materials accidents, earthquakes, and other such hazards. On the other hand, the likelihood of a major disaster occurring in the U.S. increases with time. Because of this confluence of timing and enthusiasm, and because the success of this idea depends on the voluntary cooperation of nongovernment personnel, the government should act now to evaluate and, as appropriate, implement these recommendations. ■

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