



Standard Guide for Planning for and Response to a Multiple Casualty Incident¹

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1. Scope

1.1 This guide covers the planning, needs assessment, training, integration, coordination, mutual aid, implementation, provision of resources, and evaluation of the response of a local emergency medical service (EMS) organization or agency to a multiple patient producing situation that may or may not involve property loss. This guide is limited to the pre-hospital response and mitigation of an incident up to and including the disposition of patients from the incident scene.

1.2 This guide addresses the background on planning, scope, structure, application, federal, state, local, voluntary, and nongovernmental resources and planning efforts involved in developing, implementing, and evaluating an EMS annex, or component, to the local jurisdiction's emergency operations plan (EOP) as defined in the Federal Emergency Management Agency (FEMA) publication, Civil Preparedness Guide (CPG) 1–8.²

1.3 *This standard does not purport to address the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

F 1149 Practice for Qualifications, Responsibilities, and Authority of Individuals and Institutions Providing Medical Direction of Emergency Medical Services³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *command post*—the physical location from which incident command exercises direction over the entire incident.

3.1.2 *disaster*—a sudden calamity, with or without casualties, so defined by local, county, or state guidelines.

3.1.2.1 *medical disaster*—a type of significant medical incident which exceeds, or overwhelms, or both, the capability of local resources and of routinely available regional or multi-jurisdictional medical mutual aid, and for which extraordinary medical aid from state or federal resources is very likely required for further diagnosis and treatment.

3.1.3 *EMS control/medical group supervision*—the first emergency medical services response at the incident scene, or designated by the local response plan or incident command to be responsible for the overall management of the incident's EMS operation.

3.1.4 *extrication management*—the function of supervising personnel who remove entrapped victims.

3.1.5 *fatality management*—the function designated by existing plans, or the EMS control/medical group supervisor, to organize, coordinate, manage, and direct morgue services.

3.1.6 *incident commander*—the individual responsible for the overall on-site management and coordination of personnel and resources involved in the incident.

3.1.7 *logistics resources management*—the function responsible for acquiring personnel, equipment (including vehicles), facilities, supplies, and services as requested by the incident commander.

3.1.8 *medical communications management*—the function designated by the incident commander or EMS control/medical group supervisor to establish, maintain, and coordinate effective communication between on-site and off-site medical personnel and facilities.

3.1.9 *medical supplies management*—the function designated by the incident commander to manage equipment and report to EMS control/medical group supervisor.

3.1.10 *mental health coordinator*—a qualified mental health professional responsible for coordinating the psychosocial assessments and interventions for responders, affected individuals, and groups.

3.1.11 *multiple casualty incident (MCI)*—a type of significant medical incident that may fall into the following categories:

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² Available from FEMA, 500 C St., SW, Washington, DC 20472.

³ *Annual Book of ASTM Standards*, Vol 13.02.

3.1.11.1 *extended*—an incident for which local medical resources are available and adequate to provide for field medical triage and stabilization, and for which appropriate local facilities are available and adequate for further diagnosis and treatment.

3.1.11.2 *major*—an incident producing large numbers of casualties, for which routinely available regional or multi-jurisdictional medical mutual aid is necessary and adequate for further diagnosis and treatment.

3.1.12 *mutual aid*—the coordination of resources, including but not limited to facilities, personnel, vehicles, equipment, and services, pursuant to an agreement between jurisdictions providing for such interchange on a reciprocal basis in responding to a disaster or emergency.

3.1.13 *needs assessment*—a preliminary survey of real or potential hazards in a specific geographic area.

3.1.14 *operations officer*—individual who assists the incident commander on issues relating to the operations of the incident.

3.1.15 *public information*—a function designated by the incident commander for the dissemination of factual and timely reports to the news media.

3.1.16 *safety management*—the function that identifies real or potential hazards, unsafe environment or procedures at the incident scene, and recommends the appropriate corrective or preventive actions under the authority of the incident commander, to ensure the safety of all personnel at the incident scene.

3.1.17 *sector officers (group supervisors/leaders/managers)*—qualified personnel who control a specific area or task assignment.

3.1.18 *staging area*—the location where responding emergency services equipment and personnel assemble for assignment.

3.1.19 *staging management*—the function designated by the incident commander that is responsible for the orderly assembly and utilization of resources in a designated area.

3.1.20 *transportation management*—the function designated by the EMS control/medical group supervisor that is responsible for the transportation of the patients from the incident scene and for coordination with EMS control/ medical group supervisor, communications, and the incident commander.

3.1.21 *treatment area*—the site at or near the incident for emergency medical treatment prior to transport.

3.1.22 *treatment management*—the function that is responsible for the definitive on-scene medical treatment of patients.

3.1.23 *triage*—the process of sorting and prioritizing emergency medical care of the sick and injured on the basis of urgency and type of condition present, and the number of patients and resources available in order to properly treat and transport them to medical facilities appropriately situated and equipped for their care.

3.1.24 *triage area*—a location near the incident site to which injured persons should be brought, triaged, and taken directly to the treatment area.

3.1.25 *triage management*—the function that is responsible for triage and preliminary treatment of casualties.

4. Summary of Guide

4.1 This guide is based upon a body of knowledge on the planning, implementation, and evaluation of the emergency medical components of the local pre-hospital response to multiple casualty incidents.

4.2 The body of knowledge on which the guide is based was drawn from a wide variety of sources, including individual authors, academic institutions, and federal, state, regional, and local organizations.

4.3 This guide is organized in such a way as to provide those responsible for planning, implementing, and evaluating the emergency medical components of the local pre-hospital response to multiple casualty incidents with information they can readily use to ensure that their response is as expedient and appropriate as is reasonably possible.

4.4 The guide was created to organize, collate, and distribute related information in such a way as to be readily accessible to people in the fields of emergency medical services and emergency management.

4.5 This guide should not be perceived as an inflexible rule or standard but as a guide that should be adapted to the needs of the individual community, and should be refined and improved as the body of knowledge on which it is based increases.

5. Significance and Use

5.1 This guide is intended to assist the management of the local EMS agencies or organizations in the design, planning, and response of their jurisdiction's resources to multiple casualty incidents (MCIs).

5.2 This guide does not address all of the necessary planning and response of pre-hospital care agencies to an incident that involves the total destruction of community services and systems.

5.3 This guide does not address the necessary design, planning, and response to be undertaken by a medical care facility to an internal or external event that necessitates the activation of the facility's disaster plan.

5.4 This guide provides procedures to coordinate and provide a systematic and standardized response by responsible parties, including the local elected officials, emergency management officials, public safety officials, medical care officials (pre-hospital and hospital), local EMS agencies/organizations and others with objectives and tasks for the pre-hospital management of a significant incident.

5.5 This guide provides for the establishment of an incident command system with position descriptions that identify mission, functions, and responsibilities of the command structure to be used at a MCI. The incident command functions include but are not limited to staging, logistics, rescue/extrication, triage, treatment, transportation (air, land, and water), communications, and fatality management.

5.6 This guide provides examples and other management tools that can assist in providing training objectives and decision making models for dispatch, response, triage, treatment, and transportation for local jurisdictions experiencing multiple casualty incidents.

PLANNING

6. Planning

6.1 *Purpose*—Planning should be a cooperative effort between local EMS providers and the jurisdiction in which they deliver services. The plan should be written to establish the emergency organization, basic policies, responsibilities, and actions required for support of local operations of emergency medical/health plans. Plans should ensure rapid medical assistance to persons requiring aid due to an incident. Plans should describe a system for coordination of alerting, dispatching, and uses of medical personnel and resources whenever a local emergency medical health agency requires assistance from another EMS agency/jurisdiction. The plan should be designed to be an extension of day to day service, facilities, and resources.

6.2 *Goal*—The plan ensures adequate and coordinated efforts that will minimize loss of life, disabling injuries, and human suffering by providing effective medical assistance through efficient use of medical and other resources in the event of emergencies resulting in multiple casualty incidents.

6.3 *Objectives*—The primary objectives of a plan should include a process whereby:

6.3.1 Each EMS agency/jurisdiction should have a plan to meet its own needs within its capabilities.

6.3.2 Each EMS agency/jurisdiction should enter into mutual aid agreements with other local or regional jurisdictions which can be invoked when local capability to manage a situation has been exceeded. Each jurisdictional plan should facilitate the access and utilization of local and state resources.

6.3.3 The EMS agency/jurisdiction's plan should conform to appropriate regional and state plans.

6.3.4 Each EMS agency/jurisdiction should define training requirements, and develop and utilize a training program based on the needs assessment of the community.

6.3.5 The plan should be a coordinated interagency effort. Responsible agencies should have regular interaction in order to facilitate working relations during an incident.

6.3.6 Plans and procedures should be reviewed and revised regularly on the basis of tabletop exercises, simulated incidents, or actual events.

6.4 *Needs Assessment and Hazards Analysis:*

6.4.1 A needs assessment is a preliminary survey of real or potential hazards in a specific geographic area. Basic to the planning process is an understanding of the problems that should be anticipated in the specific area.

6.4.1.1 A needs assessment lets the EMS agency/jurisdiction know what to expect.

6.4.1.2 It prevents planning for unnecessary events.

6.4.1.3 It provides an incentive for the EMS agency/jurisdiction's plan.

6.4.1.4 It might indicate preventive measures.

6.4.1.5 It creates an awareness of new hazards.

6.4.2 When the needs assessment is complete, the jurisdiction should be able to make the following decisions:

6.4.2.1 The type of planning desired,

6.4.2.2 What types of response to emphasize,

6.4.2.3 What resources will be needed to fulfill that response, and

6.4.2.4 The type and quantity of mutual aid and support services that might be required outside the normal jurisdictional services.

6.4.3 *Components*—There are three basic parts to a needs assessment:

6.4.3.1 Consideration of the potential for specific incidents,

6.4.3.2 Evaluation of the potential harm resulting from the incident, and

6.4.3.3 Evaluation of the resources required to respond to the incident.

6.4.4 *Approach*—The following are suggested approaches to completing a needs assessment:

6.4.4.1 Form a team to identify the potential hazards, risks, and impact relating to potential MCIs.

6.4.4.2 Consult the local or state civil defense/emergency preparedness offices for assessment information.

6.4.4.3 After identifying potential MCIs, evaluate them for their potential hazards, risks, and impact.

6.4.4.4 Evaluate the area's resources.

6.4.5 *Resources Assessment*—Consider the personnel required for performing such tasks as emergency medical services, firefighting, and rescue. Inventory equipment for the job and evaluate its ability to perform the task. Prepare a written description of what potential incidents exist, and the ability to respond to these incidents.

6.4.6 Once complete, the needs assessment becomes part of the plan.

6.5 *Plan Components*—The plan should include provision for the following:

6.5.1 *Organizational Structure for Response:*

6.5.1.1 The plan should define an overall incident organization based on a strategy of efficient and effective utilization of resources.

6.5.1.2 The plan should address chain of command, including transfer of authority of any officer or position.

6.5.2 *Organization of Manpower and Resources for Response:*

6.5.2.1 The plan should provide for delineation of responsibilities and authority for all involved response personnel and agencies.

6.5.2.2 The plan should address necessary resources for each level of event and prepare for availability and updating of those resources.

6.5.3 *Response:*

6.5.3.1 The plan should provide for appropriate response to MCIs.

6.5.3.2 The plan should provide for organization and implementation of the following during MCIs:

(a) Incident command system,

(b) Patient triage, treatment, and transportation areas,

(c) Transportation dispatch and routing (ground, air, and water),

(d) Coordination with receiving hospitals (patient care capacity inventory (PCCI)),

(e) Medical teams,

(f) Communications plan,

(g) Psychosocial services,

(h) Medical records, and

(i) Resource inventory list of equipment, services, and personnel.

6.5.4 *Coordination*—Each EMS agency/jurisdiction should have plans and procedures that facilitate working with other response agencies during a MCI. Communications with these organizations should be established on a regular basis to ensure a more effective response. The EMS agency/jurisdiction should effectively interact with the following:

6.5.4.1 Hospitals, hospital consortia, skilled nursing facilities, poison control centers, and other specialty care centers,

6.5.4.2 Health department and mental health agencies,

6.5.4.3 Law enforcement agencies,

6.5.4.4 Fire services,

6.5.4.5 Other EMS agencies,

6.5.4.6 Local companies and businesses,

6.5.4.7 Local/regional EMS councils,

6.5.4.8 Media,

6.5.4.9 Emergency management offices of the local jurisdiction,

6.5.4.10 Local emergency planning committees (as defined by law for hazardous materials (HAZMAT) mitigation),

6.5.4.11 Specialty services such as CHEMTREC, HAZMAT teams (medical and mitigation), mine rescue teams, search teams, and so forth,

6.5.4.12 Social service agencies such as the American Red Cross, Salvation Army, churches, and religious and community service groups,

6.5.4.13 City or county government,

6.5.4.14 Neighboring jurisdictions,

6.5.4.15 *State Government*—Procedures for obtaining assistance from state resources, including resources of the National Guard, and

6.5.4.16 *Federal Government*—Procedures for obtaining assistance from local installations of these agencies, including military resources, U.S. Weather Service, or National Park Service; and procedures for obtaining assistance through the state from federal agencies such as the Department of Health and Human Services or the Environmental Protection Agency.

6.6 *Legal Issues*—Ensure that the plan is in compliance with local, state, and federal laws and regulations.

6.7 *Psychosocial Services*—Arrangements for psychosocial services should be an integral part of the planning process. Efforts should be made to solicit involvement from professional clinicians who are experienced with medical systems. A coordinator should be assigned who participates as an active member of the area planning effort. This team should be organized, in place, and available as part of any community response effort. Further, this team should participate in all phases of the response, including planning and evaluation.

6.8 *Mutual Aid*

6.8.1 *Planning Stage*:

6.8.1.1 Define who will respond where and when, and what advanced life support procedures are authorized, and so forth.

6.8.1.2 Establish formal written agreements between jurisdictions to mitigate potential problems before they occur. Establish protocols for requesting aid and conditions for refusing to provide aid.

6.8.1.3 Update the equipment inventory and distribution of resources.

6.8.2 *Formal Agreement*—The written agreement should also include:

6.8.2.1 *Objectives*:

(a) Definition of mutual aid,

(b) Assignment of review date,

(c) Amendments, and

(d) Definitions used in plan.

6.8.2.2 *Participation*:

(a) Extent and limit of participation: emergency agencies, adjacent counties and cities, state agencies, and out of state jurisdictions,

(b) Point of contact,

(c) Request for mutual aid,

(d) Obligations of the plan,

(e) Conditions for refusing to provide aid, and

(f) Withdrawal from plan.

6.8.2.3 *Organization*:

(a) Local organization chart,

(b) Extent of authority of person initiating plan,

(c) Line of authority in absence,

(d) Status of EMS agency,

(e) Maintenance of individual authority of requesting incident command or EMS control,

(f) Local mutual aid plan operations exclusive of city or county plan,

(g) Assisting state or private institution,

(h) Assisting federal institution,

(i) Operation of city or county dispatch center,

(j) Preparation and use of participants' inventory and resources,

(k) Participation in the state EMS mobilization and mutual aid plan,

(l) Procedures to obtain activation,

(m) Authority and responsibility of EMS agencies and services, and

(n) Coordination with other EMS services.

6.8.2.4 *Equipment Loss Replacement Procedures*:

6.8.2.5 *Reimbursement*.

6.8.2.6 *Liability*.

6.8.2.7 *Operation Command Procedures*.

6.8.2.8 *Post Incident Evaluation*.

6.8.3 *Request*—When requesting mutual aid for an incident, specify the following:

6.8.3.1 Nature and location of the MCI,

6.8.3.2 Type of equipment and number of personnel requested, and whether specialized personnel are needed,

6.8.3.3 Location where assisting units shall report (staging area), and

6.8.3.4 Radio frequencies assigned to the incident.

NOTE 1—The agency receiving the request should consider availability of resources and provide the estimated response time to the staging area.

6.8.4 *Decision Plan*— Develop a decision plan for determining when to activate mutual aid agreements, request state aid, or recommend a state request for federal aid. Base the decision on resources, personnel, and number of patients.

6.9 *Evaluation*—The evaluation of an effective pre-hospital EMS system response to a MCI must encompass an objective, as well as a subjective assessment of the planning, needs assessment, training, communication, integration, coordination, mutual aid, implementation, and provision of resources by all organizations and agencies written into that area's plan. Because of the lack of reliable EMS system MCI analysis, all evaluators are urged to share their findings with the EMS and emergency management communities.

6.9.1 *Post Incident Analysis*—A subjective assessment of response to an actual incident should be held for all organizations and agencies that participated in the response. All comments and concerns should be researched for validity and impact in changing the plan.

6.9.1.1 An objective assessment should involve all agencies involved in the response and use a pre-established critique tool developed or accepted by the local planners.

6.9.2 Though the format of the objective critique will differ from area to area, the following principles of evaluation are important to the goal of that area's EMS system's response to MCIs:

6.9.2.1 The critique tool should include but not be limited to a minimum data set that should be collected as close to the conclusion of the emergency state as is safe for responders and is considerate of medical well-being of victims and responders.

6.9.2.2 The minimum data set should include but not be limited to a collection of reproducible data that can be verified and validated by subsequent investigators.

6.9.2.3 Whereas summaries for the data should be a matter of public record accessible to responsible requesters, the actual collected data should be a matter of EMS confidentiality and subject to release and disclosure only under subpoena.

6.9.2.4 This confidentiality for information involving victims and responders must be ensured by the area EMS agency and must not be confused with the purpose of the evaluations, which is to improve the future response.

6.9.2.5 The collected data on MCIs should be summarized and made available.

6.9.2.6 The data should be available for analysis by EMS research groups.

6.9.3 The implementation of the system evaluation after an incident may be accomplished by any qualified researcher (for example, conducted by a formally trained researcher) or participant evaluation group that has received the permission of that area's medical control to collect data.

6.9.3.1 Multi-disciplinary teams are suggested as systems evaluators for timely and efficient completion of the entire critique tool.

IMPLEMENTATION

7. Incident Command Structure

7.1 Introduction

7.1.1 The concept of the incident command system (ICS) was first developed by Fire Suppression Services in an effort to organize an effective response to forestfires, brush fires, and major urban conflagrations. The ICS includes some fundamental practices of management and control of personnel and resources. The general concept currently used by a majority of

public safety agencies includes an incident commander or unified command post with staff support officers, and then distinct operational areas: (1) Operations Branch/Section, in charge of the actual tactical deployment of personnel and resources; (2) Financial Branch/Section, for financial and expense/payment accountability, typically found and used with state or federal government response; (3) a Planning Branch/Section, to prepare short/long term objectives and strategic decisions for incident command; and (4) Logistics Branch/Section, in charge of securing resources and supplies.

7.1.2 The general ICS training courses currently taught throughout the country do not specifically discuss the needs for immediate on-scene responsibilities for EMS.

7.1.3 The concept used in the planning guide for incident command assumes that any EMS agency/jurisdiction having authority to develop and implement an effective multiple casualty incident response plan will have the necessary training and understanding of the generic incident command system. The intent of this planning guide, and specifically this section, is to reinforce the acceptable job responsibilities and functions specifically required to mitigate a multiple casualty incident. This section does not address all of the components of an ICS that may be necessary in order for an EMS agency/jurisdiction to develop, implement, or mitigate an incident within their jurisdiction.

7.1.4 This section does not include specific information for the operations section officer, fire operations, police operations, public works, or hazardous materials teams. It does provide suggested job junctions for the key EMS positions. It does not imply that all positions must be staffed in every incident. The ICS section was prepared and written to provide detailed information for guidance for any EMS agency/jurisdiction needing such information. It is not intended to replace an EMS agency/jurisdiction's existing ICS plan as it relates to the EMS job functions/descriptions of the agency's established ICS plans.

7.1.5 Job descriptions and functions should be developed for all key ICS positions by mutual agreement between responding, responsible EMS agencies/jurisdictions as they relate to the overall incident command plan for a jurisdiction. For the purposes of this planning guide, some job functions were merged together. It should be the responsibility of the EMS agency/jurisdiction writing the multiple casualty incident plans to address any or all of the job functions and ensure that the job functions developed are reviewed by the EMS agencies and jurisdictions having authority for multiple casualty planning, response, and mitigation.

7.1.6 The job descriptions and functions listed in this section are models only and are designed to particularly highlight functions and tasks that must be fulfilled in the EMS operations section of an overall ICS. The model can be implemented by a rural EMS agency/jurisdiction, as well as a municipal EMS agency/jurisdiction. The system is devised around functional areas of management rather than staffing all listed command positions.

7.1.7 Although specific functional areas are emphasized, it does not mean that other areas may not be developed, or that these may not be further subdivided. In any incident, any EMS

agency or jurisdiction could have several operating sectors depending upon the incident situations. It is important to remember that, at most, a person given functional responsibility within the ICS should not have more than four or five people under his direct supervision, or supervision should be moved to the next lower level of command within the incident command structure.

7.1.8 The functions of extrication, triage, treatment, and transportation are generally performed on all calls whether it be for two people or 200 people. The incident command model presented here for inclusion for a multiple casualty incident plan is one that is flexible and expandable in the particulars of any given incident.

7.1.9 It should be the responsibility of the EMS agency/jurisdiction having authority to ensure that the participants in the development of the multiple casualty incident planning guide for their jurisdictions have necessary knowledge and training on general incident command concepts and organization.

7.2 *Incident Command Duties*—The function of incident command is the overall management and coordination of all responding personnel and resources. The person assuming this command will be identified primarily by the type of incident, fire, medical, traffic, and so forth.

7.2.1 Upon arrival at the scene, an individual predetermined by the jurisdiction having authority shall assume the incident command function, and announce his name and title to the communications center for announcement to all other agencies and others involved.

7.2.2 The incident commander should request a face-to-face briefing with the emergency services personnel in charge at that time to obtain the following information:

- 7.2.2.1 Nature and scope of the incident,
- 7.2.2.2 Current situation,
- 7.2.2.3 Operational decisions made,
- 7.2.2.4 Current manpower committed,
- 7.2.2.5 Current resources committed,
- 7.2.2.6 Number of injuries and number of expected injuries,
- 7.2.2.7 Radio frequencies currently being used for the incident, and
- 7.2.2.8 Hazards that may hinder incident operation.

7.2.3 The incident commander should ensure that the following tasks are accomplished:

- 7.2.3.1 Establish a command post that should house together the police, fire, EMS, and search and rescue, to facilitate making and implementing face-to-face decisions,
- 7.2.3.2 Announce location of command post,
- 7.2.3.3 Coordinate interagency on-scene and off-scene communications,
- 7.2.3.4 Ensure that proper record-keeping is done, including such information as who held what positions at what times, notes, victim data, decision/command orders, log, communications, resources, and personnel present,
- 7.2.3.5 Designate appropriate ancillary functions: EMS, fire or rescue, logistics, staging, public information,
- 7.2.3.6 Request additional manpower and equipment, as appropriate,

7.2.3.7 Coordinate and control aircraft traffic in the airspace around the incident,

7.2.3.8 Receive situation reports from ancillary functions regarding the status of operations,

7.2.3.9 Demobilize incident, and

7.2.3.10 Prepare written after-action report.

7.2.4 The flow charts shown in Fig. 1 and Fig. 2 provide two examples of incident command structures utilized during a multiple casualty incident.

7.3 *EMS Control Sectors/Areas/EMS Management Functions*:

7.3.1 The EMS control/medical group supervisor is responsible for the overall EMS operations at an incident, and for designating EMS functions, as appropriate, managing pre-hospital emergency care resources, and forwarding recommendations to the incident command.

7.3.2 The EMS control/medical group supervisor's function is to ensure that supervision is provided for triage, transportation, treatment, extrication, fatality management, and all EMS personnel involved in the incident. In a smaller event, this may be done by a single individual operating as incident commander, or in a larger event, with additional resources and personnel, this may be expanded to include a specific individual designated as EMS control/medical group supervisor reporting to the operations section of incident command. The EMS agency's local operational plan should ensure for the changeover from a single individual managing the entire incident to a delegation of authority. In either case, the tasks to be accomplished under EMS remain the same:

7.3.2.1 Report to the incident commander,

7.3.2.2 Assess the situation, paying particular attention to the following:

- (a) Nature and scope of the incident,
- (b) Type(s) of structure(s), vehicle(s), and so forth, involved,
- (c) Number of patients anticipated,
- (d) Type and extent of injuries anticipated,
- (e) Current pre-hospital EMS resources operating on the scene, and
- (f) Additional EMS resources anticipated,

7.3.2.3 Based on assessment, request additional EMS equipment and personnel as needed,

7.3.2.4 Through communications, advise all area hospitals and specialty centers of the nature and scope of the incident, and the anticipated number of patients that are injured,

7.3.2.5 Designate triage, transportation, treatment, extrication, medical communications, and fatality management,

7.3.2.6 Announce location of treatment area to all personnel,

7.3.2.7 Coordinate with police, fire, and other agencies as appropriate,

7.3.2.8 Provide progress report to the incident commander, and

7.3.2.9 Demobilize EMS operations.

7.4 *Extrication*—The extrication function is responsible for the following:

7.4.1 Determining whether primary assessment and primary treatment are to be conducted on-site,

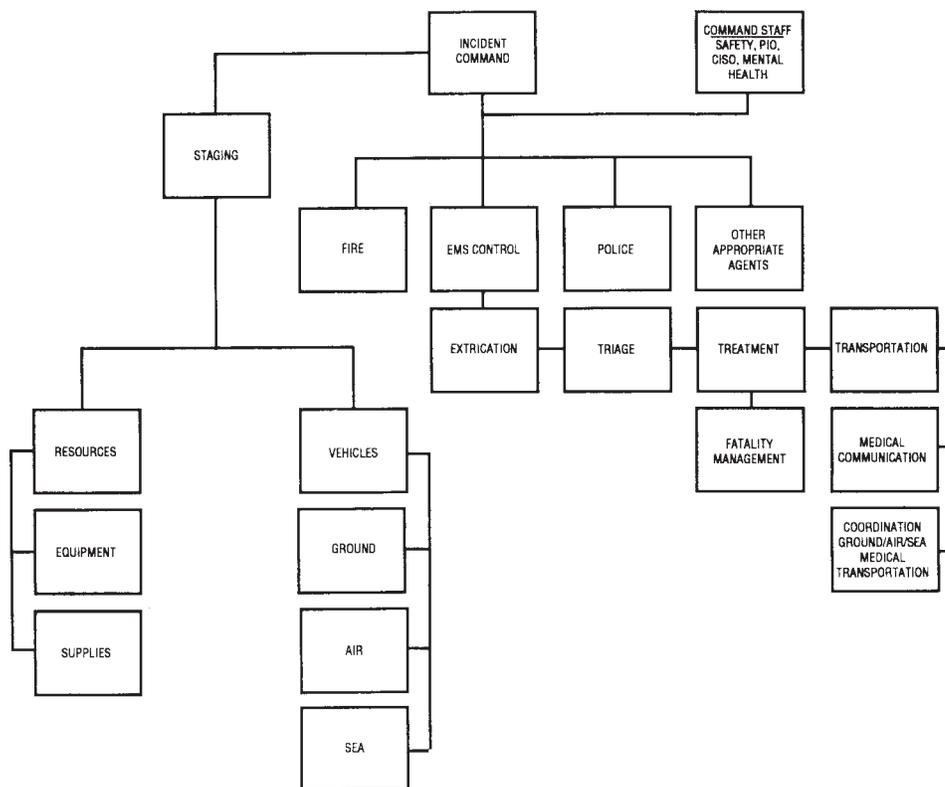


FIG. 1 Example 1—EMS Model for Management and Response

7.4.2 Evaluating resources needed for the extrication of trapped patients and their removal to the treatment area,

7.4.3 Assessing possible safety hazards in the environment and ensuring that they have been neutralized prior to initiating extrication activities until relieved of this responsibility by safety management,

7.4.4 Requesting additional equipment and personnel, as needed, from incident command or EMS control/medical group supervisor,

7.4.5 Supervising all personnel assigned to the extrication function,

7.4.6 Sending progress reports to the incident commander or EMS control/medical group supervisor,

7.4.7 Reporting to the incident command when all patients have been extricated and delivered to the treatment area, and

7.4.8 Coordinating activities with triage, treatment, and fatality management.

7.4.9 The extrication function reports to EMS control/medical group supervisor, and is designated by EMS control/medical group supervisor or the agency/jurisdiction having authority.

7.5 *Triage*—The triage function is responsible for the following (procedures for the triage process are contained in Section 9):

7.5.1 Sorting of patients to establish priorities for extrication, treatment, and transportation,

7.5.2 Ensuring that all patients are triaged,

7.5.3 Directing and controlling patient removal teams assigned to triage,

7.5.4 Ensuring that all patients are transferred to the appropriate treatment areas,

7.5.5 Transferring patient care to treatment area,

7.5.6 Maintaining communication and coordinating activities with treatment, extrication, and fatality management,

7.5.7 Requesting personnel and equipment, as needed,

7.5.8 Coordinating the activities of all pre-hospital personnel assigned to triage, and

7.5.9 Managing all triage activities at the site and providing update to EMS.

7.5.10 Triage reports to EMS control/medical group supervisor.

7.6 *Treatment*—The treatment function is responsible for the definitive on-scene treatment of patients, and for the following:

7.6.1 Determining the number and type of injured expected,

7.6.2 Establishing priority areas for treatment (primary, delayed, or minor),

7.6.3 Inventorying equipment and personnel necessary for the supervision of care in their area,

7.6.4 Providing for the proper deployment and utilization of personnel,

7.6.5 Receiving the transfer of patient care from triage as the patients are transferred from the triage area to the treatment area,

7.6.6 Ensuring that reassessment and re-triage of patients is done as needed,

7.6.7 Ensuring that appropriate treatment is rendered to patients within the treatment area,

7.6.8 Providing guidance and direction to treatment team personnel,

7.6.9 Maintaining constant communication with transportation to ensure coordinated patient loading area,

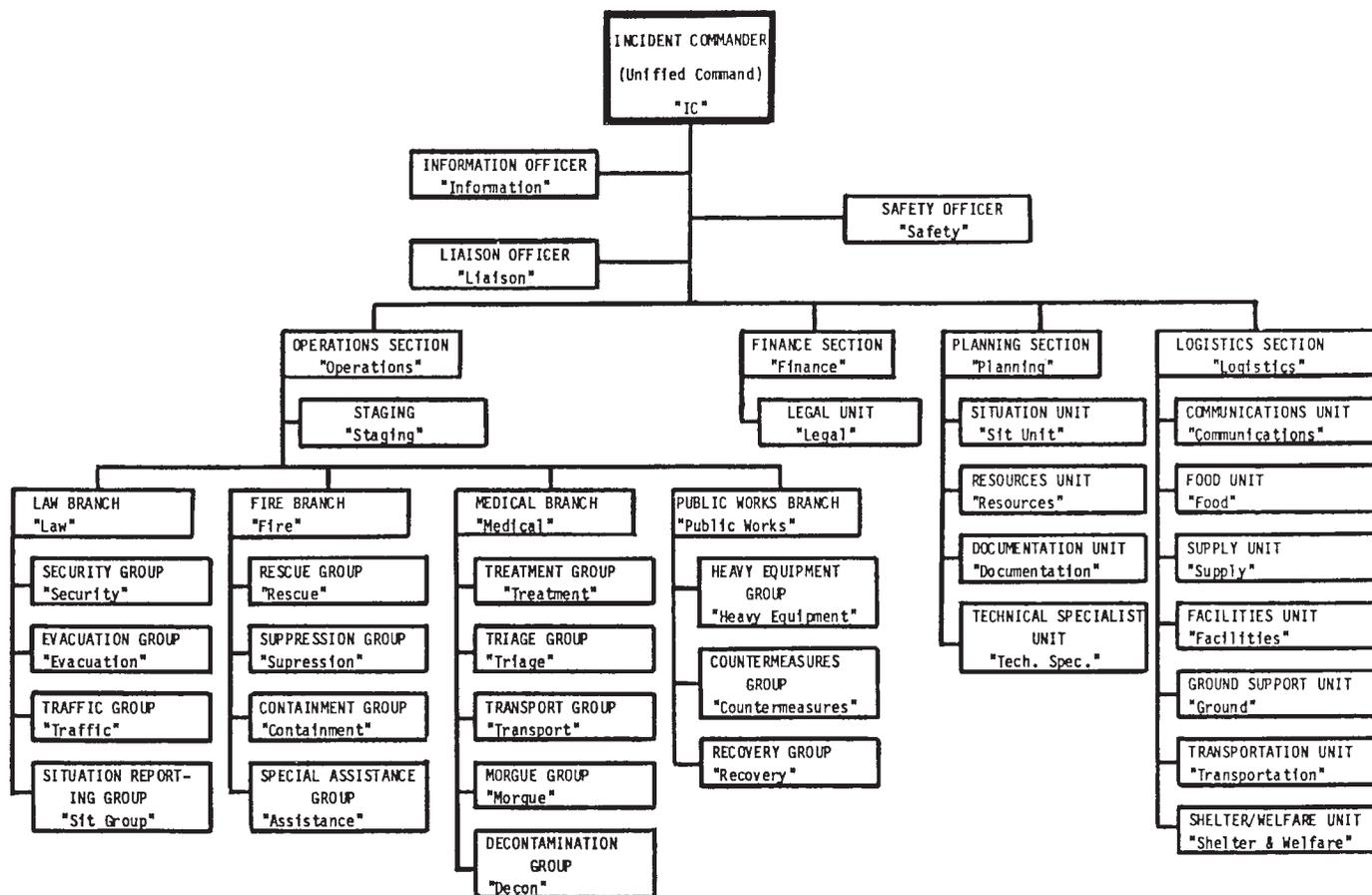


FIG. 2 Example 2—EMS Model for Management and Response

7.6.10 Coordinating activities with triage, transportation, extrication, and fatality management,

7.6.11 Managing all activities within the treatment area, and

7.6.12 Providing updates to EMS control/medical group supervisor.

7.6.13 Treatment reports to the EMS control/medical group supervisor and supervises all personnel assigned to the treatment area.

7.7 *Transportation*—The transportation function is responsible for the management of the transport of patients requiring medical treatment from the incident scene, and for the following:

7.7.1 Establishing a patient loading area,

7.7.2 Establishing or designating, or both, a medical communications function,

7.7.3 Arranging appropriate vehicles and methods of transport (ground or water vehicle or aircraft),

7.7.4 Maintaining a log of vehicle and patient destination,

7.7.5 Coordinating patient allocation and transportation with treatment and staging,

7.7.6 Determining hospital and specialty referral center capabilities, and, through communications, updating their status regularly,

7.7.7 Assigning patients to be transported to each facility, in accordance with pre-determined plans and policies or consultations with medical facilities, or both,

7.7.8 Communicating with receiving facility regarding patient condition and status,

7.7.9 Providing progress reports to EMS control/medical group supervisor, and

7.7.10 Reporting to EMS control/medical group supervisor when the last patient has been transported.

7.7.11 The transportation function reports to the EMS control/medical group supervisor and supervises ambulance, paramedic, and other transport crews, and all other personnel assigned to the transportation area.

7.8 *Medical Communications*—The medical communications function is responsible for establishing, maintaining, and coordinating medical communications at the incident scene between the hospital's medical control and the treatment and transportation functions as needed. These responsibilities include:

7.8.1 Establishing communications link with the designated hospital medical control system,

7.8.2 Acquiring hospital status information relating to patient handling capacity from hospital medical control and relaying it to transportation,

7.8.3 Obtaining patient-specific advanced life support orders as necessary,

7.8.4 Receiving basic patient information and injury status from triage/treatment and relaying it to hospital medical control,

7.8.5 Designating patient destination based on pre-determined bed availability assignment information to transportation,

7.8.6 Establishing additional medical communication as required, and

7.8.7 Providing ongoing progress reports to transportation.

7.8.8 Medical communications is a function designated by transportation. It reports to transportation or treatment, or both.

7.9 *Fatality Management*—The function of fatality management is to supervise all personnel assigned to the morgue area. Fatality management controls access to the area and organizes, coordinates, manages, and directs morgue functions, and is responsible for the following:

NOTE 2—The function of fatality management may be assigned to any emergency service responder until the arrival of the designated personnel (that is, medical examiner, coroner, funeral director). The function of fatality management should only be assigned to experienced emergency responders.

7.9.1 Establishing a morgue area remote from the treatment area and not readily available to other victims, but accessible to vehicles, such as, emergency vehicles, law enforcement, or coroner,

7.9.2 Assessing resources needed on the scene, such as equipment, supplies, personnel, and community health and social services,

7.9.3 Keeping area off-limits to all personnel, except those needed,

7.9.4 Coordinating with law enforcement and assisting the coroner's office as necessary,

7.9.5 Keeping identity of deceased victims confidential,

7.9.6 Maintaining records, including victims' identities (if available), personal effects, location found, and so forth, and

7.9.7 Providing appropriate security to the morgue area.

7.9.8 Fatality management is designated by and reports to EMS control/medical group supervisor or the agency/jurisdiction having authority.

7.10 *Support Functions*—Staging, logistics and resources, safety, public information, and critical incident stress teams are support functions to incident command.

7.10.1 *Staging*—The staging function is responsible for the orderly assembly (in a designated area) and on-scene dispatch of vehicles, equipment, and personnel, and for supervising air medical staging and all other personnel assigned to the staging area, and is responsible for:

7.10.1.1 Establishing a staging area,

7.10.1.2 Announcing the staging area location to incident command and communications center, so that all responding units will report to the staging area,

7.10.1.3 Establishing units for assignment as requested by incident command or transportation,

7.10.1.4 Requesting maintenance for vehicles, through logistics, at the staging area, as needed,

7.10.1.5 Updating incident command of the status of currently available units, and

7.10.1.6 Demobilizing staging area.

7.10.1.7 The staging function reports to an operations officer or the incident commander.

7.10.2 *Logistics and Resources*—The logistics and resources function is responsible for acquiring personnel, equipment (including vehicles), and supplies as requested by incident command, and for ensuring that the following tasks are accomplished:

7.10.2.1 Establishing an on-site equipment and supply resource area,

7.10.2.2 Inventorying equipment and supplies on the scene and determining requirements of additional equipment and supplies,

7.10.2.3 Receiving requests from the incident commander for equipment and resources that must be obtained from outside the incident area,

7.10.2.4 Requesting additional equipment and supplies as they arrive at the scene and notifying incident command, if appropriate, as to their assignment,

7.10.2.5 Maintaining inventory of arriving equipment and supplies,

7.10.2.6 Making provisions for service, repair, and fuel for all apparatus and equipment, and

7.10.2.7 Coordinating with other personnel, as appropriate.

7.10.2.8 The logistics and resources function reports to the incident commander.

7.10.3 *Safety*—The safety function monitors and assesses hazards and unsafe situations and develops measures to ensure personnel safety. Although emergency action may occur to stop unsafe actions, generally such actions should be corrected through the incident commander. Other tasks include:

7.10.3.1 Surveying incident areas and identifying hazards and potential hazards,

7.10.3.2 Advising incident command of special equipment, procedures, or teams needed to handle specific hazards,

7.10.3.3 Identifying and informing incident command of hazardous or potentially unsafe situations associated with the incident on an ongoing basis,

7.10.3.4 Exercising emergency authority to stop and prevent unsafe acts, and

7.10.3.5 Investigating and documenting accidents and injuries to emergency personnel and other events that have occurred within incident areas and recommending appropriate actions to eliminate or minimize risks.

7.10.3.6 The safety function reports to the incident commander.

7.10.4 *Public Information*—The public information function disseminates factual and timely reports to the news media. The individual performing this function should be the only person who deals with the media. The function is responsible for the following:

7.10.4.1 Contacting the incident commander for a briefing upon arrival,

7.10.4.2 Contacting the jurisdictional agency in charge to coordinate public information activities,

7.10.4.3 Establishing a media area located away from the command post,

7.10.4.4 Acting as liaison to the press to identify their needs and assist them in accessing special resources,

7.10.4.5 Deciding what information should be released,

7.10.4.6 Never releasing names of patients prior to notification of next of kin, and

7.10.4.7 Giving information such as patients' age, sex, a general description of injury (multi-trauma, burns, and so forth), and hospital where patient was taken when describing injured patients.

7.10.4.8 The public information function reports to the incident commander.

7.10.5 *Critical Incident Stress Team*—The mental health coordinator leads the critical incident stress team. The critical incident stress team is a pre-organized unit that is responsible for the delivery of psychosocial support for victims and responders who experience acute stress reactions as the result of involvement in an incident. This function should include the following responsibilities:

7.10.5.1 Coordinating between incident command and providers in hospitals or other appropriate agencies, or both, which provide follow-up services,

7.10.5.2 Functioning as advisor to incident command on matters related to the psychosocial needs resulting from the incident,

7.10.5.3 Ensuring that training of psychosocial response personnel is established and is appropriate,

7.10.5.4 Verifying proper credentials of all psychosocial support staff,

7.10.5.5 Reporting the availability of the critical incident stress team at the scene to incident command,

7.10.5.6 Establishing an unobtrusive base of operations in the command post,

7.10.5.7 Assigning members of the team to cover the following:

(a) Assessing the psychological status of emergency personnel and victims of the incident,

(b) Providing the opportunity for emotional ventilation or participation in a defusing, which provides stress management education,

(c) Providing information and support to significant others who arrive at the scene,

(d) Referring for follow-up services, as needed, and

(e) Maintaining records as deemed appropriate.

7.10.5.8 The critical incident stress team function reports to the incident commander.

8. Communications

8.1 *Requirements*—EMS communications become particularly important during a MCI, in order to ensure that an EMS communications system can meet the special needs of an MCI, and not itself become disabled by the MCI. The system design should meet the following requirements:

8.1.1 *Interagency Communications*—Means should be provided to allow direct communications as needed among police, fire, hospitals, and EMS units from different agencies. Available techniques include use of radios (common disaster channels, multiagency multichannel radios, or cross path of channels through dispatch center or mobile dispatch center), runner, and face-to-face communication. The fixed site facilities should be provided with independent standby power sources to avoid dependence on commercial power.

8.1.2 *Backup Systems*—All systems should strongly consider redundancy and backup communication systems.

8.2 *Support Functions*—An EMS communication system must provide the means by which emergency resources can be accessed, mobilized, managed, and coordinated. Telecommunications for support of EMS functions should include the following categories:

8.2.1 Dispatching and controlling movements of emergency vehicles,

8.2.2 Alerting and notifying receiving health care facilities,

8.2.3 Communicating the transportation priority and patient treatment care status,

8.2.4 Mobilizing medical response personnel,

8.2.5 Interfacing with law enforcement, fire, and local government agencies and other mutual providers, and

8.2.6 Communicating with field personnel to update incident response and response requirements.

9. Patient Care

NOTE 3—See Practice F 1149.

9.1 *Patient Care Capacity Inventory*—During an MCI the day-to-day hospital care system continues to provide care. In shifting to an MCI mode it is necessary for pre- and in-hospital planners to acknowledge that *people* take care of patients. Bed counts alone do not determine the ability to take care of patients. To provide the most effective care for the greatest number of victims of an MCI, hospitals must assess their capability to provide such MCI care. This assessment must be reported to the EMS control hospital, agency, or officer for assistance in the transportation of field ill or injured patients to appropriate hospitals. The communication of this patient care capacity inventory should be reported in two categories:

9.1.1 *Immediate*—The ability to devote one of each of the following to each patient for 1 hour:

9.1.1.1 Anesthesiologist,

9.1.1.2 Critical care or emergency care nurse,

9.1.1.3 Open surgical suite,

9.1.1.4 Physician (emergency medicine, critical care specialist, or general surgeon),

9.1.1.5 Respiratory therapist or certified nurse anesthetist,

9.1.1.6 Scribe, and

9.1.1.7 Surgical nurse.

9.1.2 *Delayed*—The ability to devote one of each of the following to each patient for ½ hour:

9.1.2.1 Critical care nurse,

9.1.2.2 Physician, and

9.1.2.3 Scribe.

NOTE 4—These categories may be further broken down into more specific capacities or capabilities such as NDMS or Armed Services Medical Regulating Office (ASMRO) classifications.

9.2 *Triage: Field Triage During MCI*

9.2.1 The process of triage consists of three levels: primary, secondary, and tertiary, with the following objectives:

9.2.1.1 *Primary Triage*:

(a) Rapid patient assessment and tagging (documentation) into three groups (see Fig. 3), and

(b) Immediate (brief) life sustaining care, as necessary.

9.2.1.2 *Secondary Triage*:

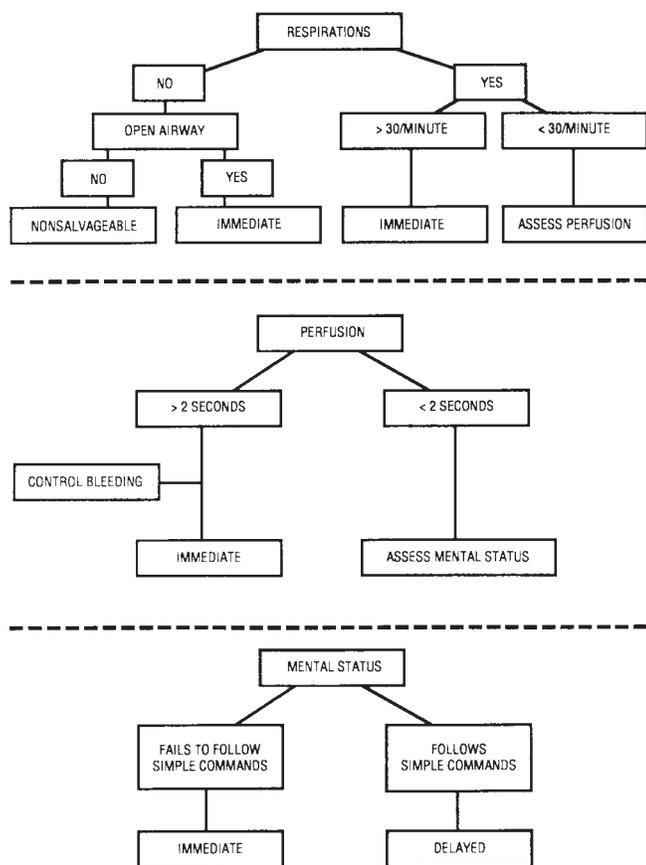


FIG. 3 Primary Triage

(a) Document, tag, and sort patients, if not already performed, and

(b) Provide medical treatment as appropriate and available.

9.2.1.3 Tertiary Triage:

(a) Determine priority for disposition of the patient from the incident site, and

(b) Evaluate condition of patients relevant to resources, transportation, and available medical facilities. These factors will determine their priority for disposition from the scene.

9.2.2 Triage Categories—Victims are placed into the following categories in accordance with the local standard of medical care during an MCI. For example, see algorithm in Fig. 3.

9.2.2.1 First Priority/Immediate—Victims who have serious life threatening injuries but have a high probability of survival if they receive immediate care.

9.2.2.2 Second Priority/Delayed—Those victims who are seriously injured and whose lives are not immediately threatened. Triage status of these patients may change to priority one patients based on medical resources at any time during the MCI, or upon consultation with on-line medical control, or both.

9.2.2.3 Third Priority/Minor—Those victims who are injured but do not require immediate medical attention, and those apparently not physically injured.

9.2.2.4 Fourth Priority/Dead/Mortally Injured—Those patients who are obviously dead as per local medical control or victims with severe injuries with low probability of survival,

even with immediate care. Based on limited resources some patients who are expected to die may not receive immediate care. Those patients should be classified in the delayed or other category based on local policies. As this is a difficult field decision, actual practice may be to provide treatment and transportation.

9.3 Standard Operations and Protocol Compatibility—Cooperation of planning can minimize problems prior to occurrence of an MCI. Work within the local EMS region should be done to standardize basic life support (BLS) and advanced life support (ALS) procedures and protocols for all patients, including:

- 9.3.1 Airway management,
- 9.3.2 Shock,
- 9.3.3 Chest injuries,
- 9.3.4 Blunt trauma,
- 9.3.5 Head injuries,
- 9.3.6 Major orthopedic injuries, and
- 9.3.7 Medical emergencies.

9.4 Field Medical Records—Field medical records should be based on information as available, to include times of evaluation, treatment, and transport. The following information should be completed prior to the patient’s arrival at the hospital:

- 9.4.1 Age, sex, name if known, and address,
- 9.4.2 Chief complaint, injuries found, and medical problem,
- 9.4.3 Treatment provided and vital signs,
- 9.4.4 Agency providing treatment or transportation, or both, and
- 9.4.5 Hospital to which patient is transported.

9.5 Medical Response Teams—Medical response teams can be activated from a number of sources, including the following:

9.5.1 Local:

9.5.1.1 Hospital Based Response Teams—Hospital based response teams may be able to respond to an incident in a short period of time. The team composition varies, but usually consists of a physician and nurse or EMT-P, or both, who are trained in triage, field medicine, and the incident command system. These teams will usually maintain an operational mode for a very short period of time until resupplied or until other personnel become available.

9.5.1.2 HAZMAT Teams—Hazardous materials teams are usually activated through the public health department or fire department. They are activated whenever the possibility of exposure to hazardous materials exists, or whenever decontamination due to hazardous materials is needed.

9.5.1.3 Psychosocial Teams—These teams are activated when calls are made to designated provider agencies and hospitals.

9.5.2 State—The State Office of Emergency Services should be contacted regarding state sponsored teams.

9.5.3 National—Disaster Medical Assistance Teams (DMATs) from the National Disaster Medical System (NDMS) can be activated by the federal government during a disaster. NDMS is a federally coordinated system that will supplement responses when the incident overwhelms local and state capacity to respond. DMATs can only be activated through a

request from the state government. These are 29-member teams consisting of physicians, nurses, emergency medical technicians, and other personnel that can be mobilized to respond to a declared disaster. A unit of three DMATs can function independently. When teams are dispatched to the disaster site they will bring necessary supplies and equipment.

EVALUATION

10. Training

10.1 It is essential that EMS staff at all levels be trained to meet their responsibilities in the course of an MCI. This is critical for four reasons: (1) an MCI is unlikely to give advance warning, which means that response must be rapid and effective; (2) as neither the time nor place of an MCI can be predicted, all staff must be trained to respond; (3) an MCI response will differ significantly from single-patient response; and (4) the ability of the EMS organization to respond effectively can mean the difference between life and death, and health and disability, to MCI victims.

10.2 *Levels of Training*—Four levels of training are recommended for the training of emergency management personnel: basic, intermediate, mid-level, and senior management.

10.2.1 *Basic MCI Training* is recommended for all field responders who will need to recognize an MCI, report it properly, and respond as effectively as possible during the first crucial minutes and hours.

10.2.2 *Intermediate MCI Training* is recommended for field responders and managers who will need to initially assume incident command positions and responsibilities, mobilize additional EMS resources, and integrate the additional EMS resources into a well-coordinated response.

10.2.3 *Mid-Level MCI Training* is recommended for EMS managers who may need to assume senior incident command responsibility and interface the EMS response with other emergency response such as police, fire, search and rescue, and public works.

10.2.4 *Senior Management MCI Training* is recommended for senior EMS managers and directors who may need to interface with the news media, coordinate with local government officials, and request or mobilize resources from beyond their immediate jurisdiction.

10.3 *Curriculum*—An MCI training curriculum should address, at a minimum, the following:

10.3.1 Introduction/overview of National Interagency Management System response planning,

10.3.2 Developing the MCI response plan,

10.3.3 Roles, responsibilities, and resources of various responders, services, and levels of government,

10.3.4 Principles and practices for both pre-hospital and in-hospital MCI preparedness,

10.3.5 Field management of the MCI,

10.3.6 Triage,

10.3.7 Incident command system,

10.3.8 Drills and exercises,

10.3.9 Communications,

10.3.10 Coordination with other agencies and services,

10.3.11 Incident-specific guidelines, such as hazardous materials incidents, rural versus urban incidents, terrorist incidents, etc.,

10.3.12 Psychosocial impacts of MCIs on responders, victims, families, and the community, and

10.3.13 Evaluation and application of lessons learned from drills, exercises, and actual MCI response.

10.4 *Objectives*—At the end of a training session, trainees should be familiar with incident types, communication systems, pre-planning phase functions, scene command functions, scene triage, special resources, staging management, patient identification, procedures, medical control, transfer of command procedures, PCCI (patient care capacity inventory), and patient transport decision procedures.

10.5 *Training Drills and Exercises*

10.5.1 *Purpose*—The purpose of a drill is to test the plan, evaluate personnel performance, provide experience and training, meet licensure requirements, and draw attention to a problem.

10.5.2 *Defining Scope:*

10.5.2.1 Determine which agencies are involved and to what extent,

10.5.2.2 Determine a realistic scenario from community's problems, and

10.5.2.3 Define contingencies for bad weather, out of service equipment, and so forth.

10.5.3 *Planning the Drill:*

10.5.3.1 Establish a committee with personnel from various sections or agencies. The committee should have defined responsibilities and appoint subcommittees as necessary.

10.5.3.2 Establish a timetable for the committee's work and for the drill date and times.

10.5.4 *Drill Management*—Safety is the primary concern. Identify a safety officer who has authority to stop any portion of the drill.

10.5.5 *Insurance*—The planning agency should consider a temporary insurance policy for participants.

10.5.6 *Evaluation*—Develop evaluation criteria to test the plan/drill exercise and provide timely review of evaluation data and outcome of the drill with participating agencies. A drill planning guidelines form is illustrated in Fig. 4.



Section I—To be completed during the first meetings of the committee.

- 1. Date and time of drill
2. Scenario
3. Total number of casualties and triage priority distribution
4. Committee Assignments and Service Liaisons

Section II—To be completed during subsequent meetings by the committee chairman. There should be written reports from each member.

- 5. Ambulance Coordination
6. Fire Department
7. Law Enforcement
8. Hospitals

- 9. Staging
10. Casualty Coordination
11. Moulage
12. Press Coordination
13. Red Cross/Blood Bank
14. Site Selection and Liaison

FIG. 4 Drill Planning Guidelines



15. Evaluation Team Date of Report _____

a. Names and assignments of team members

b. Have critique sheets been prepared and shared with evaluators and participants? _____

c. Where and when will the evaluation be conducted?

16. Communications Report Date of Report _____

a. Who will need communications devices and what frequencies will they be using? _____

b. What back-up systems are to be used in case of equipment failure? _____

c. How will regular radio traffic be managed? _____

17. Chairman Date of Report _____

a. Has a drill protocol, with injury list, been prepared? (attach a copy) _____

b. Does the protocol describe the incident clearly? _____

c. Does the protocol describe the exercise clearly and how and when each event is to take place? _____

d. Does the protocol describe clearly who will start and terminate the exercise and at what times? Who stops drill in the event of a real disaster? _____

e. What financial support is being given to this drill? _____

Section III—Attach a copy of your hospital-based community-wide disaster plan.

18. Medical Control

a. Which facility will serve as medical control? _____

b. Will the drill involve the need for victim decontamination, and if so, where will it be done (field or hospital)? _____

c. Will med/surg teams be sent to the field, and if so, by whom? _____

Section IV—Other considerations:

19. Will aeromedical evacuation take place, and if so, by whom (name of service and contact person)? _____

Section V—Sample Consent Form

I, _____ give my permission for myself to participate in a disaster drill, sponsored jointly by _____ and the public agencies of _____, to be held on _____. I understand that the entire drill will be supervised. I permit photographs or videos to be taken of myself or my child while participating in the drill and agree that those photographs or videos may be used by any of the participating agencies. I understand that makeup may be applied to me to give the appearance of injury. I also agree not to hold any of the sponsoring agencies responsible for any injuries I may suffer in connection with the disaster drill.

Date _____

Signature of Participant _____

Witness

Name _____

Address _____

Participant's name _____

Participant's address _____

Person to notify in emergency _____

Phone number _____

FIG. 4 Drill Planning Guidelines (continued)

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