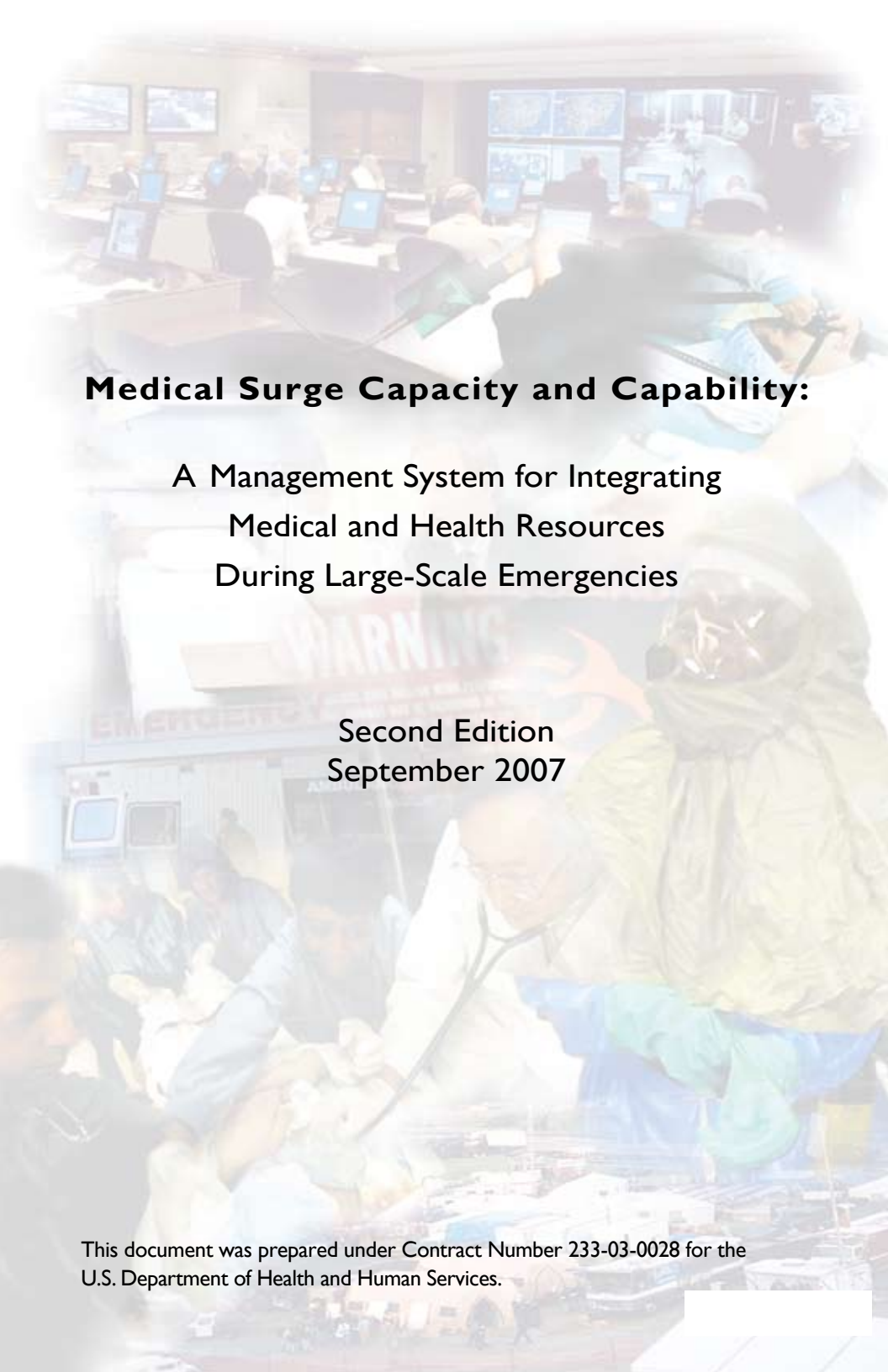
Medical Surge Capacity and Capability:

A Management System for Integrating Medical and Health Resources During Large-Scale Emergencies

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

[This page left intentionally blank]



Medical Surge Capacity and Capability:

A Management System for Integrating Medical and Health Resources During Large-Scale Emergencies

Second Edition
September 2007

This document was prepared under Contract Number 233-03-0028 for the U.S. Department of Health and Human Services.

[This page left intentionally blank]

Contents

[This page left intentionally blank]

Acknowledgments

In preparing this handbook, a panel of nationally recognized subject matter experts was convened representing the Federal, State, local, and private sectors. HHS gratefully acknowledges and thanks the panel for lending their expertise and experience to the development and review of this handbook.

Prepared for:

U.S. Department of Health and Human Services
200 Independence Avenue, S.W., Washington, D.C. 20201

Contract No. 233-03-0028

Prepared by:

The CNA Corporation
Institute for Public Research

Editors:

Ann Knebel, R.N., D.N.Sc., FAAN
Office of Preparedness and Emergency Operations
Office of the Assistant Secretary for Preparedness and Response

Eric Trabert, M.P.H.
The CNA Corporation, Institute for Public Research

Authors:

Joseph A. Barbera, M.D., Co-Director of the Institute for Crisis, Disaster, and Risk Management, The George Washington University

Anthony G. Macintyre, M.D., Associate Professor of Emergency Medicine, The George Washington University

[This page left intentionally blank]

Forward

The Medical Surge Capacity and Capability (MSCC) handbook was published in August 2004 to describe a systematic approach for managing the medical and public health response to an emergency or disaster. Shortly after its publication, the Department of Homeland Security released the National Response Plan (NRP). In accordance with Homeland Security Presidential Directive (HSPD)-5, the NRP established the structure and process for a coordinated multidisciplinary and all-hazards approach to domestic incident management based on a National Incident Management System (NIMS).

The NRP was put to its first real-world test during Hurricane Katrina. Although incident response is a State and local responsibility, after action reviews from Katrina indicate the need to strengthen Federal support of State and local efforts and improve preparedness for the Federal response to a catastrophic event. Katrina was a stark reminder of the devastating consequences, especially among the medically fragile segments of society, when the local healthcare infrastructure fails. It also revealed that collaborative planning, information sharing, and incident management coordination—hallmarks of the MSCC handbook—apply not only to surge events, but also to maintaining normal healthcare operations and services, a concept known as medical system resiliency. The lessons learned from Katrina spurred changes to the NRP.[1]

The impetus for updating the MSCC handbook was to describe recent changes to the Federal emergency response structure, particularly the Federal public health and medical response. The revision also expands on several concepts described in the first edition of the MSCC handbook to facilitate their implementation. While the tiered approach described in this handbook is consistent with NIMS and the NRP, this revision addresses terminology and concept descriptions to assure consistency with Federal guidance.

A subject matter expert panel was convened in August 2006 to identify areas of the MSCC handbook that should be expanded or updated. The panel was drawn primarily from the pool of experts that participated in the development of the original MSCC. Based on the panel's insights, HHS worked with the CNA Corporation and Drs. Joseph Barbera and Anthony Macintyre to prioritize areas for revision and complete the necessary changes.

In addition to promoting consistent terminology with the NRP and NIMS, the following is a list of key updates or revisions contained in this second edition of the MSCC handbook:

[1] U.S. Department of Homeland Security, Notice of Change to the National Response Plan, May 25, 2006. Available at: http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml.

- Tier 6 – Federal Support to State, Tribal, and Jurisdiction Management – has been rewritten to highlight changes to the Federal emergency response structure. The chapter focuses on the information that medical and public health planners need to know regarding the request, receipt, and integration of Federal public health and medical support under Emergency Support Function #8 of the NRP.[2]
- The handbook now emphasizes how MSCC concepts can be applied not only to medical surge, but also to maintain normal healthcare services and operations during a crisis (i.e., medical system resiliency).
- Newly added section 1.4.1 clarifies the role of Incident Command versus the regular administration of an organization during response and recovery operations. Included in this section is a description of the "Agency Executive" role in ICS.
- In accordance with NIMS, the handbook describes the role of a Multiagency Coordination System (MACS), Multiagency Coordination Center (MACC), and Multiagency Coordination Group (MAC Group) in providing emergency operations support to incident command. The application of these concepts at Tiers 2 and 3 is particularly important.[3]
- Section 1.3.1 draws distinctions between the processes and structures that are used in preparedness planning and those used during incident response and recovery.
- An important lesson learned from Hurricane Katrina and included in this update is the need at all levels of government to plan for the health services support needs of medically fragile populations.
- The structure of the Emergency Operations Plan (EOP) has become increasingly standardized. Section 2.3 of the handbook provides a more detailed description of the requirements of an effective EOP for healthcare organizations.
- The term "healthcare organization" has been substituted for "healthcare facility" to reflect the fact that many medical assets that may be brought to bear in an emergency or disaster are not facility-based.

[2]At the time of this writing, the NRP is undergoing revision and may soon be known as the National Response Framework. However, the Emergency Support Function (ESF) structure as described in this handbook is not expected to change. Additional information on the National Response Framework is available at http://www.fema.gov/emergency/nrf/.

[3]As NIMS is updated, the terminology used to describe components of multiagency coordination systems may change, however, the general concepts remain the same.

Executive Summary

Medical and public health systems in the United States must prepare for major emergencies or disasters involving human casualties. Such events will severely challenge the ability of healthcare systems to adequately care for large numbers of patients (surge capacity) and/or victims with unusual or highly specialized medical needs (surge capability). In addition, medical and public health systems can expect incidents that significantly impact their usual operations, as occurred with Hurricane Katrina. These so-called "mass effect" events can have devastating consequences for medically fragile segments of society and those living with chronic health conditions. Limited or no access to routine healthcare services can cause these populations to rapidly decompensate, producing a downstream surge of demand for acute care that can overwhelm local capabilities. The first step in addressing medical surge and medical system resiliency is to implement systems that can effectively manage medical and health response, as well as the development and maintenance of preparedness programs.

The Medical Surge Capacity and Capability (MSCC) Management System describes a management methodology based on valid principles of emergency management and the Incident Command System (ICS). Medical and public health disciplines may apply these principles to coordinate effectively with one another, and to integrate with other response organizations that have established ICS and emergency management systems (fire service, law enforcement, etc.). This promotes a common management system for all response entities—public and private—that may be brought to bear in an emergency. In addition, the MSCC Management System guides the development of public health and medical response that is consistent with the National Incident Management System (NIMS).

The MSCC Management System emphasizes *responsibility* rather than authority alone for assigning key response functions and advocates a management-by-objectives approach. In this way, the MSCC Management System describes a framework of coordination and integration across six tiers of response:

- ***Management of Individual Healthcare Assets (Tier 1):*** A well-defined ICS to collect and process information, to develop incident plans, and to manage decisions is essential to maximize MSCC. Robust processes must be applicable both to traditional hospital participants and to other healthcare organizations (HCOs) that may provide "hands on" patient care in an emergency (e.g., outpatient clinics, community

health centers, private physician offices, and others as noted on page 2-2). Thus, each healthcare asset must have information management processes to enable integration among HCOs (at Tier 2) and with higher management tiers.

- ***Management of a Healthcare Coalition (Tier 2):*** Coordination among local healthcare assets is critical to provide adequate and consistent care across an affected jurisdiction.[4] The healthcare coalition provides a central integration mechanism for *information sharing* and *management coordination* among healthcare assets, and also establishes an effective and balanced approach to integrating medical assets into the jurisdiction's ICS.
- ***Jurisdiction Incident Management (Tier 3):*** A jurisdiction's ICS integrates healthcare assets with other response disciplines to provide the structure and support needed to maximize MSCC. In certain events, the jurisdictional ICS promotes a *unified incident command* approach that allows multiple response entities, including public health and medicine, to assume significant management responsibility.
- ***Management of State Response (Tier 4):*** State Government participates in medical incident response across a range of capacities, depending on the specific event. The State may be the lead incident command authority, it may provide support to incidents managed at the jurisdictional (Tier 3) level, or it may coordinate multijurisdictional incident response. Important concepts are delineated to accomplish all of these missions, ensuring that the full range of State public health and medical resources is brought to bear to maximize MSCC.
- ***Interstate Regional Management Coordination (Tier 5):*** Effective mechanisms must be implemented to promote incident management coordination between affected States. This ensures consistency in regional response through coordinated incident planning, enhances information exchange between interstate jurisdictions, and maximizes MSCC through interstate mutual aid and other support. Tier 5 incorporates existing instruments, such as the Emergency Management Assistance Compact (EMAC), and describes established incident command and mutual aid concepts to address these critical needs.
- ***Federal Support to State, Tribal, and Jurisdiction Management (Tier 6):*** Effective management processes at the State (Tier 4) and jurisdiction

[4] The term *jurisdiction* in this context refers to a geographic area's local government, which commonly has the primary role in emergency or disaster response.

(Tier 3) levels facilitate the request, receipt, and integration of Federal public health and medical resources to maximize MSCC. The Federal public health and medical response is described, emphasizing the management aspects that are important for State and local managers to understand.

The tiers of the MSCC Management System do not operate in a vacuum. They must be fully coordinated with each other, and with the non-medical incident response, for medical and public health resources to provide maximum MSCC. The processes that promote this coordination and integration enable medicine and public health to move beyond their traditional support roles (for example, as an Emergency Support Function) and become competent participants in large-scale medical incident management.

Response systems, by necessity, are adapted to address historically effective capabilities, available resources, specific laws and regulations, and the medical and public health infrastructure in a given area. The MSCC Management System is not intended as an "all or nothing" requirement that ignores this reality, and the specific tiers and management processes will not apply equally in all States, Tribal Nations, and jurisdictions. Regardless of how a response system is configured, however, planners must ensure that all key management *functions* are addressed. The MSCC Management System provides a model to conduct this assessment, and provides formative guidance when developing or revising response management capabilities.

Many of the tenets of the MSCC Management System are not easily achieved. For example, garnering support and participation from medical clinics and private physician offices, while laudable, is by no means a simple task to accomplish. Because the private medical community is so diverse and disconnected, there is wide variation in motivation and constraints to implementing these processes. This may cause incomplete realization of some of the tier goals and objectives. Nevertheless, the MSCC Management System provides an overarching model that can help to organize seemingly disparate preparedness efforts. It may also assist in illustrating, for any reluctant medical administrators, the critical role played by private medical assets.

The NIMS makes it increasingly important for medicine and public health to adopt response systems based on ICS principles. NIMS establishes core concepts and organizational processes based on ICS to allow diverse disciplines from all levels of government and the private sector to work

together in response to domestic hazards. NIMS compliance is required of all Federal departments and agencies, as well as State, Tribal, and jurisdictional organizations that seek Federal preparedness assistance (grants, contracts, etc.). With its basis in ICS, the MSCC Management System helps to ensure that medical and public health organizations develop NIMS-consistent relationships, strategies, processes, and procedures, and become equal partners that are fully integrated into the emergency response community.

Introduction

[This page left intentionally blank]

Why the MSCC Project?

In the aftermath of the 9/11 terrorist attacks and the dissemination of anthrax in 2001, the ability of the U.S. healthcare system to provide an effective and coordinated response to mass casualty or complex[1] incidents came under intense scrutiny. More recently, the devastation caused by Hurricane Katrina and the mass disruption of public health and medical services along the Gulf Coast spotlighted the need for cohesive strategies that focus on management systems for major public health and medical response. The critical question becomes:

> What management structure will allow us to discuss, analyze, and describe complex medical and public health response under exceptional[2] circumstances *as a single system*?

Examinations of major public health and medical emergencies reveal exceptionally complex management scenarios. This is true for all hazard types (natural disasters, infectious diseases, terrorism, large-scale explosives, and etc.) and is apparent even in events without large numbers of *physically* injured or ill patients. Medical evaluation and treatment of incident victims require many complicated tasks that extend beyond hands-on medical care and are dispersed across a wide range of resources. Surprisingly, however, the *management* of such complex scenarios has received very little attention.

In addition to ensuring adequate patient care, critical management responsibilities in major medical and public health incidents include:

- **Medical system resiliency:** The ability of healthcare organizations (HCOs) to survive a hazard and rapidly recover any compromised medical services is critical. This ensures that a reliable platform is available to address medical surge needs. It also provides the public with access to regular medical services, thus minimizing the risk of a "secondary surge" that can result when people with chronic health conditions decompensate because they lack access to their normal care.

[1] In *complex* incidents, the victims have unusual medical needs or require medical care that is not readily available. These medical needs may be difficult to define or address without specialized expertise, even with only a few casualties.

[2] Throughout this document, *exceptional* refers to unusual numbers or types of victims, affected medical care systems, or other adverse conditions.

- ***Responder safety:*** The protection of healthcare personnel and other responders as they perform activities to minimize the hazard impact on an affected population is paramount. Personal protective equipment (PPE), vaccination, prophylactic medication, and other interventions may be necessary in the midst of a rapidly evolving emergency.
- ***Information management:*** A large amount of complex information must be collected, analyzed, and managed to determine incident parameters and response needs. Information is needed to rapidly and accurately determine patient distribution and numbers, the range of injury and illness caused by the hazard, recommendations for evaluation and treatment, the post-impact condition of public health and medical assets, and other response considerations.
- ***Coordinating diverse operating systems:*** The multiple disciplines involved in response to a major public health or medical event do not routinely work together. This complicates interaction when they engage under the stress of incident response.
- ***Resolving intergovernmental issues:*** Major public health or medical incidents often involve initiatives across multiple levels of government. Usually, Federal and State Governments operate in support of the local response, though the reverse may occur. Management activities at each level will vary from incident to incident and must be well coordinated.
- ***Medical asset support:*** For public health and medical response agencies to perform optimally, extensive logistical, financial, and administrative support is necessary. This may include ensuring prompt and reasonable financial compensation for extraordinary medical efforts, and temporarily waiving certain regulatory and compensatory requirements so medical assets may care for increase patient volume.
- ***Addressing time constraints:*** Medical emergencies are time-sensitive and require rapid intervention by clinicians to address the urgent medical and surgical needs of victims. In addition, rapid public health and public safety interventions are necessary to limit the number and/or severity of casualties.
- ***Incorporating public health and medical assets into public safety response:*** In many locales, public health and medicine are not recognized as traditional first responders. As a result, they may not receive equal treatment and prioritization for training and funding compared to public safety and other response assets.

Given the complexity of response to major public health and medical events described here and elsewhere, sustainable solutions to these multifaceted challenges have been elusive. The MSCC Management System proposed in this document outlines and recommends a systems-based[3] approach that focuses on the management solution for these complex tasks. It describes how to manage, within a single system, the diverse public health and medical entities involved in incident response, and it identifies mechanisms to integrate medical and public health assets with traditional response disciplines (e.g., public safety, emergency management).

The basis of the MSCC handbook is the *Medical and Health Incident Management (MaHIM) System,* the first published U.S. effort to conceptually address the complex health and medical issues that arise during major medical incidents.[4] The MaHIM model provides a comprehensive system description of the *functional* components critical to effective response for any mass casualty event. It further describes the processes that coordinate these functions to limit morbidity and mortality after exposure to a hazard. The MSCC Management System extracts key concepts from MaHIM to develop practical, operational guidance for medical and health emergency planners.

MSCC Project Goal

The goal of this project is to develop a management system (framework) that promotes public health and medical system resiliency and maximizes the ability to provide adequate public health and medical services during events that exceed the normal medical capacity and capability of an affected community.

MSCC Project Objectives

The primary objectives of this project are to:

- Assist healthcare organizations, other acute-care medical assets, and local/regional emergency response entities in establishing

[3] The term *system* in this project means a clearly described functional structure, including defined processes, that coordinates otherwise diverse parts to achieve a common goal.

[4] J. A. Barbera and A. G. Macintyre. *Medical and Health Incident Management (MaHIM) System: A Comprehensive Functional System Description for Mass Casualty Medical and Health Incident Management.* Institute for Crisis, Disaster, and Risk Management, The George Washington University. Washington, DC, October 2002. Available at at http://www.gwu.edu/~icdrm/.

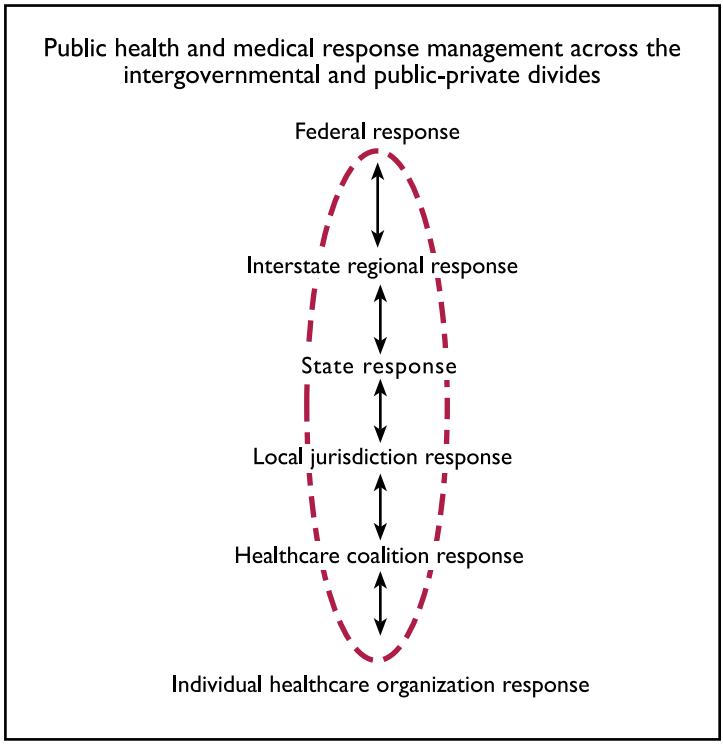
and integrating effective management systems during emergencies and disasters.

- Provide concrete operational direction without supplanting State and local authorities' responsibilities and initiatives. This guidance must be flexible and allow the integration of ongoing initiatives and programs, while maintaining consistent management architecture.
- Integrate the use of established incident command principles.
- Promote coordination between medical response management and the larger emergency response community.
- Delineate information management and coordination processes that can be established at the local and regional levels to rapidly enhance surge capacity and capability.
- Define a management system that is directly applicable to mitigation, preparedness, response, and recovery activities, and on which current and future training efforts may be based.
- Promote adoption of systems that are consistent with NIMS.
- Use a working group process to obtain a wide range of expert input through an open, valid peer review of concepts and products.

MSCC Project Scope

As shown on the facing page, the MSCC handbook presents a system for management integration that ranges from the individual healthcare organization (HCO) through jurisdictional, State, and Federal Government levels.[5] Because of the local jurisdiction's central role in providing MSCC, the handbook's primary emphasis is on *jurisdictional incident management* and the coordination and support of HCOs. The handbook also highlights the functions and processes that promote integration of assets into an overall response system and coordination between assets.

[5] The MSCC handbook acknowledges the sovereignty of Tribal Nations and the responsibility of Tribes for preparedness and response planning in areas governed by Tribal authority. When incident circumstances warrant, management integration may include Tribal authority. In States where Tribal Nations are located, State and local emergency planning should consider Tribal health and medical resources that may be called on to augment State or local response efforts.



What the MSCC Management System Is

The MSCC Management System is designed to promote the integration of existing programs for incident management used by hospitals, public health, and traditional response entities into an overarching *management system* for major public health and medical response. It defines the basic requirements for medical and public health asset participation in the overall response system. Rather than focus on narrow topics (e.g., communications or training), the MSCC Management System examines functional relationships across the range of response needs. In so doing, it provides a systematic approach to organize and coordinate available public health and medical resources so they perform optimally under the stress of an emergency or disaster.

The MSCC Management System seeks to enhance management integration and coordination by:

- Defining a system that integrates the management of local, State, Tribal, and Federal medical response to provide optimal surge capacity and capability, while protecting healthcare staff, current patients, and healthcare system integrity.
- Defining the management relationship between HCOs and providers, and the multiple levels of government response.
- Establishing incident planning processes and information management to promote an integrated medical response that is timely and accurate.
- Incorporating incident command system principles to facilitate medical system integration with non-medical incident management during response, and to establish acute care medicine as "first responders" in the emergency response community.
- Providing a platform for effective training of medical incident management and response, from the local to the Federal response levels.

What the MSCC Management System Is Not

This handbook does not focus extensively on the *internal* management of individual public health and medical assets, nor is it specifically for hospital emergency preparedness. It does not attempt to redefine the operational methods of other entities (e.g., law enforcement, fire service, emergency management) that also have as primary missions the preservation of life and/or critical infrastructure. Though the handbook describes overall management processes and systems, it is not a comprehensive, standalone description of MSCC. For example, it does not address the specific amounts of materials, personnel, and other resources required for specific numbers of patients. Moreover, it provides only a general description of Federal programs that currently exist, or those in development, to address quantitative adequacy in surge capacity.[6]

[6]The National Response Plan and individual Federal health and medical programs should be accessed for specifics on these Federal capabilities.

How To Use This Document

The MSCC Management System is intended for all professionals in the U.S. who are involved in planning for, responding to, and recovering from domestic public health and medical emergencies or disasters. They include, but are not limited to, public health (State and local) and emergency management personnel, emergency planners, planners at hospitals or other community health and medical organizations, public safety personnel, healthcare executives, public health and medical providers, and political officials responsible for emergency preparedness and response. The handbook is meant to promote collaborative planning and discussion among these professionals.

Readers may apply the management processes detailed in the MSCC handbook to ongoing preparedness planning activities. Whether undergoing initial development or revision of existing plans, readers are encouraged to examine portions of the MSCC applicable to their specific situation. Incorporating the MSCC guidance may enhance their ability to interface with other response entities. Most importantly, the material presented is intended to promote cooperative planning and community integration of public health and medical assets into the overall response. The material is also relevant as an evaluative measure during after-action analyses, and in developing and implementing education, training, drills, and exercises.

The concepts are applicable to response across all hazards, from small incidents to the largest and most intense events. They are presented in a manner that demonstrates their consistency with NIMS, a requirement for Federal funding. In fact, the MSCC Management System was incorporated into the 2006 guidance for the Hospital Preparedness Program (HPP). This represented a major shift in the program's focus towards the development of management systems for emergency public health and medical response. HPP awardees should use the MSCC to promote more consistent terminology, processes, and interfaces between HCOs and the various disciplines and levels of government involved in emergency preparedness and response.

The management processes described in the MSCC may also be leveraged to integrate local capabilities developed through other Federal programs, such as the Metropolitan Medical Response System (MMRS).

MMRS program guidance embodies the concepts of the MSCC Tier 3, requiring jurisdictions to develop linkages among first responders, medical treatment resources, public health, emergency management, volunteer organizations, the private sector, and other jurisdictional elements.[7] Finally, readers may apply MSCC management processes during exercises and small or low-intensity events (e.g., managing community healthcare issues in a snow emergency) to prepare for response under more severe incident stress.

[7]Additional information on the MMRS program is available at: https://www.mmrs.fema.gov/default.aspx.

Notes

NOTES

Chapter 1: Overview of MSCC, Emergency Management and the Incident Command System

Contents (continued)

Key Points of the Chapter

Mass casualty and/or mass effect[1] incidents create demands that often challenge or exceed the medical infrastructure of an affected community. The ability to provide adequate medical care under such circumstances is known as medical surge. There are two components of medical surge: (1) surge *capacity* is the ability to respond to a markedly increased number of patients; (2) surge *capability* is the ability to address unusual or very specialized medical needs. Strategies to enhance medical surge capacity and capability (MSCC) require a systems-based approach that is rooted in interdisciplinary coordination and based at the local level.

The MSCC Management System describes a framework of coordination across six tiers of response, building from the individual healthcare organization (HCO) and its integration into a local healthcare coalition, to the integration of Federal public health and medical support. The most critical tier is *jurisdiction incident management* (Tier 3) since it is the primary site of integration for public health and medical assets with other response disciplines. Each tier must be effectively managed internally in order to integrate externally with other tiers.

Emergency management and Incident Command System (ICS) concepts form the basis of the MSCC Management System. Within ICS, response assets are organized into five functional areas: *Command* establishes the incident goals and objectives (and in so doing defines the incident); *Operations Section* develops the specific tactics and executes activities to accomplish the goals and objectives; and the *Planning, Logistics, and Administration/Finance Sections* support Command and Operations. The Planning Section is particularly critical because it manages complex information across tiers and facilitates information exchange among responders to promote consistency within the overall system.

Because multiple agencies may have leadership responsibilities in a mass casualty and/or mass effect incident, a unified command approach is essential. Unified command enables disparate entities (both public and private) to collaborate and actively participate in the development

[1]A mass effect incident may be defined as a hazard impact that primarily affects the ability of the organization to continue its usual operations (in contrast to a mass casualty incident). For healthcare systems, the usual medical care capability and capacity can be compromised and the ability to surge prevented.

of incident goals, objectives, and an overarching response strategy. Participation by public health and medical disciplines in unified command is important since these disciplines have a primary responsibility for ensuring the welfare of responders and the general public. Where unified command is not implemented due to sovereignty issues (e.g., across State borders or between private facilities), effective mechanisms for **management coordination** should be established.

1.1 What is Medical Surge?

The concept of medical surge forms the cornerstone of preparedness planning efforts for major medical incidents. It is important, therefore, to define this term before analyzing solutions for the overall needs of mass casualty or mass effect incidents.

> ***Medical surge*** describes the ability to provide adequate[2] medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community. It encompasses the ability of HCOs to survive a hazard impact and maintain or rapidly recover operations that were compromised (a concept known as medical system resiliency).

Beyond this rather simple explanation, medical surge is an extraordinarily complex topic that is difficult to comprehensively describe. The first step in doing so, however, is to distinguish surge *capacity* from surge *capability*.

1.1.1 Medical Surge Capacity

Medical surge capacity refers to the ability to evaluate and care for a markedly *increased volume* of patients—one that challenges or exceeds normal operating capacity. The surge requirements may extend beyond direct patient care to include such tasks as extensive laboratory studies or epidemiological investigations.

Because of its relation to patient volume, most current initiatives to address surge capacity focus on identifying adequate *numbers* of hospital beds, personnel, pharmaceuticals, supplies, and equipment. The problem with this approach is that the necessary standby quantity of each critical asset depends on the systems and processes that:

- Identify the medical need
- Identify the resources to address the need in a timely manner
- Move the resources expeditiously to locations of patient need (as applicable)
- Manage and support the resources to their absolute maximum capacity.

In other words, fewer standby resources are necessary if systems are in place to maximize the abilities of existing operational resources. Moreover, the integration of additional resources (whether standby, mutual aid, State or Federal aid) is difficult without adequate management systems. Thus, medical surge capacity is primarily about the *systems and processes* that influence specific asset quantity (Exhibit 1-1).

[2]Throughout this document, the term *adequate* implies a system, process, procedure, or quantity that will achieve a defined response objective.

Exhibit 1-1. Medical Surge Capacity

Basic example: If a hospital wishes to have the capacity to medically manage 10 additional patients on respirators, it could buy, store, and maintain 10 respirators. This would provide an important component of that capacity (other critical care equipment and staff would also be needed), but it would also be very expensive for the facility. If the hospital establishes a mutual aid and/or cooperative agreement with regional hospitals, it might be able to rely on neighboring hospitals to loan respirators and credentialed staff and, therefore, might need to invest in only a few standby items (e.g., extra critical care beds), minimizing purchase and maintenance of expensive equipment that generate no income except during rare emergency situations.

When addressing an overall medical surge strategy, it is recommended that guidance be delineated prospectively for maximizing the use of existing resources before resorting to the use of alternate care facilities and standards of care appropriate to the austere conditions of a disaster.[3]

1.1.2 Medical Surge Capability

Medical surge capability refers to the ability to manage patients requiring *unusual* or very *specialized* medical evaluation and care. Surge requirements span the range of specialized medical services (expertise, information, procedures, equipment, or personnel) that are not normally available at the location where they are needed (e.g., pediatric care provided at non-pediatric facilities). Surge capability also includes patient problems that require special intervention to protect medical providers, other patients, and the integrity of the HCO (Exhibit 1-2).

Exhibit 1-2. Medical Surge Capability

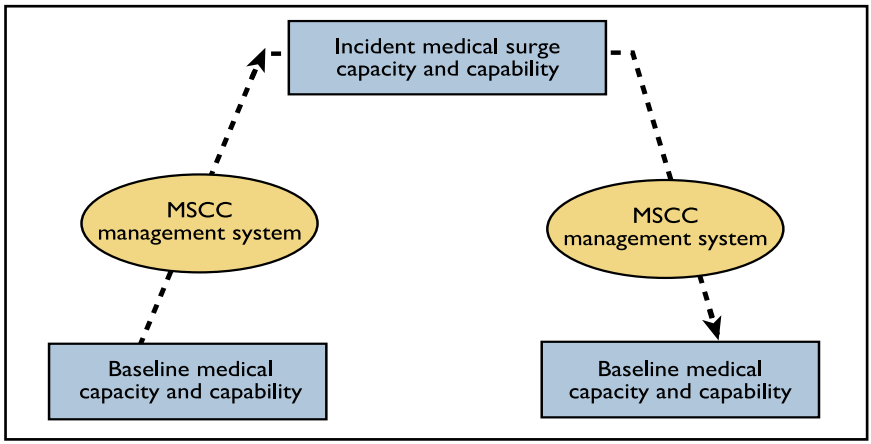
Basic example: Many hospitals encountered difficulties with the arrival of patients with symptoms of severe acute respiratory syndrome (SARS). The challenge was not presented by a high volume of patients, but rather by the specialty requirements of caring for a few patients with a highly contagious illness that demonstrated particular transmissibility in the healthcare setting. Protection of staff and other patients was a high priority, as was screening incoming patients and staff for illness, preventing undue concerns among staff, and avoiding publicity that could adversely affect the hospital's business. Coordination with public health, emergency management, and other response assets was critical.

[3]Readers are encouraged to visit the Agency for Health Research and Quality Web site (http://www.ahrq.gov) for information on alternate care facilities and allocation of scarce resources.

1.1.3 Requirements of MSCC Strategies

Effective strategies for MSCC require a *systematic* approach to meet patient needs that challenge or exceed normal operational abilities, while preserving quality of care and the integrity of the healthcare system. The MSCC Management System demonstrates management processes that allow HCOs to coordinate existing resources and then obtain "outside" assistance in a timely and efficient manner. In this way, HCOs can transition from baseline operations to incident surge capacity and capability—to meet the response needs of catastrophic events—and then back to baseline (Figure 1-1).

Figure 1-1. Management System for Reaching MSCC Objectives



Any strategy to enhance MSCC must recognize that the required emergency interventions are time sensitive and must be based primarily at the local level. This urgency limits the ability of the Federal Government to independently establish, stockpile, or own/control resources necessary for immediate MSCC. In addition, because most medical assets in the United States are privately owned, MSCC strategies must bridge the public-private divide, as well as integrate multiple disciplines and levels of government.

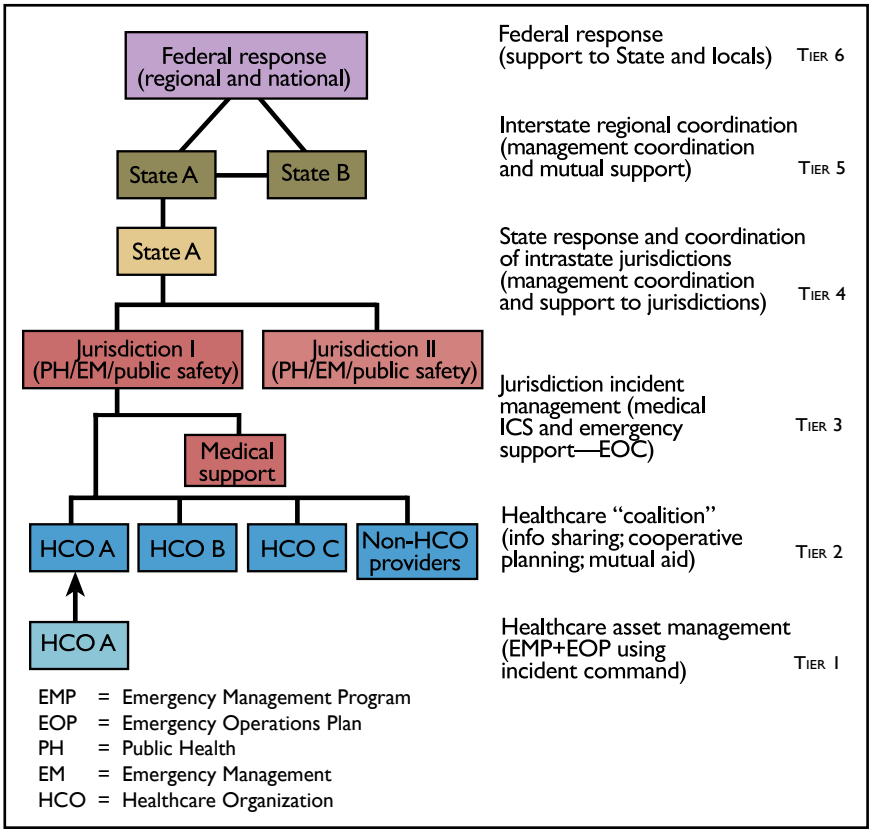
A comprehensive effort to address response requirements must include a system description (i.e., how the different response components are organized and managed) and a concept of operations (i.e., how the system components function and interact through successive stages of an event). It must include "all-hazard" processes and procedures, mutual aid, and other validated emergency management concepts. The remainder of this chapter presents key considerations for the system design and the concept of operations to maximize integration between response components and, thus, enhance MSCC.

1.2 The MSCC Management System

The MSCC Management System describes a system of interdisciplinary coordination that emphasizes responsibility rather than authority. In other words, each public health and medical asset is responsible for managing its own operations, as well as integrating with other response entities in a tiered framework. This allows response assets to coordinate in a defined manner that is more effective than the individual, ad hoc relationships that otherwise occur during a major emergency or disaster.

The six-tier construct (Figure 1-2) depicts the various levels of public health and medical asset management during response to mass casualty and/or mass effect incidents. The tiers range from the individual HCO or other healthcare assets and their integration into a local healthcare coalition, to the coordination of Federal assistance. *Each tier must be effectively managed internally in order to coordinate and integrate externally with other tiers.*

Figure 1-2. MSCC Management Organization Strategy



1.2.1 Management of Individual Healthcare Assets (Tier 1)

Tier 1 includes hospitals, integrated healthcare systems, private physician offices, outpatient clinics, nursing homes and other skilled nursing facilities, and other resources where "point of service" medical care is provided. Emergency Medical Services (EMS) may be included in Tier 1 if called on to provide field-based medical care in an emergency. The goal of Tier 1 is to maximize MSCC within each healthcare asset while ensuring the safety of personnel and other patients, and the integrity of the asset's usual operations. This is best accomplished by optimizing an entity's Emergency Operations Plan (EOP) to effectively manage internal resources and to integrate with external response assets. The MSCC Management System describes key considerations for internal preparedness planning, while focusing primarily on the processes within the EOP that facilitate external integration with the larger response community.

1.2.2 Management of the Healthcare Coalition (Tier 2)

The healthcare coalition organizes individual healthcare assets into a single functional unit. Its goal is to maximize MSCC across the coalition through *cooperative planning, information sharing, and management coordination*. The coalition ensures that public health and medical assets have the information and data they need at a level of detail that will enable them to optimally provide MSCC. In addition to hospitals, the coalition may include long-term care or alternative treatment facilities, dialysis and other outpatient treatment centers, nursing homes and other skilled nursing facilities, private physician offices, clinics, community health centers and any other healthcare asset that may be brought to bear during major medical response. Its reach may extend beyond the geographic area of the primary responding jurisdiction (Tier 3), especially in rural settings where healthcare assets may be scattered.

Tier 2 strengthens MSCC by creating the ability to move medical resources (e.g., personnel, facilities, equipment, supplies) to sites of greatest need.[4] This is accomplished through mutual aid and cooperative agreements[5] between HCOs. It also provides a platform for unified interface

[4]Traditionally, patient needs are matched with available resources by evenly distributing large numbers, or very ill/injured patients, to available facilities. This is logistically difficult because, in a mass casualty and/or mass effect incident, many victims self-refer for medical care (i.e., arrive outside the formal EMS system).

[5]Cooperative agreements provide the same services as mutual aid, but they establish a mechanism for payment for the responding services by the affected jurisdiction. This may also be referred to as "reimbursed" or "compensated" mutual aid (the term "mutual aid" otherwise implies assistance without remuneration).

with the jurisdiction's incident management (Tier 3). To be effective, the coalition must establish a planning process that is equal and fair to all participants, giving each the opportunity for input during preparedness planning, response, and recovery.

1.2.3 Jurisdiction Incident Management (Tier 3)

Tier 3 directly integrates HCOs with other response disciplines (e.g., public safety, emergency management) to maximize jurisdictional MSCC. It is the most critical tier for integrating the full range of disciplines that may be needed in a mass casualty and/or mass effect incident. The focus of Tier 3 is to describe how to effectively coordinate and manage diverse disciplines in support of medical system resiliency and medical surge demands. This requires healthcare assets to be recognized as integral members of the responder community and to participate in management, operations, and support activities. In other words, public health and medical disciplines must move from a traditional support role based on an Emergency Support Function (ESF) to part of a unified incident command system. This is especially important during events that are primarily public health and medical in nature, such as infectious disease outbreaks.

1.2.4 Management of State Response and Coordination of Intrastate Jurisdictions (Tier 4)

To address MSCC, Tier 4 describes how State-level actions can support jurisdiction incident management (Tier 3), promote coordination among multiple affected jurisdictions, or assume a primary incident command role. The State management function also serves as the primary interface for requesting Federal assistance. During preparedness planning, State agencies may facilitate arrangements between jurisdictions to coordinate response assets. The use of strategic mutual aid and/or cooperative agreements may standardize the implementation of tactical mutual aid between jurisdictions and promote a cohesive response strategy during a widespread incident.

1.2.5 Interstate Regional Management Coordination (Tier 5)

Tier 5 describes how to maximize interstate coordination to support MSCC. In the past, interstate coordination generally depended on ad hoc arrangements, goodwill at the time of an incident, and other less-than-predictable mechanisms. However, this changed when Congress enacted the Emergency Management Assistance Compact in 1996 (Public Law

104-321). EMAC, as it is commonly known, has now been accepted by all States and U.S. territories, and provides legal authority, financial mechanisms, and operational guidance to establish the ability to request and receive emergency assistance from other States or territories. This tier focuses on how to manage interstate medical and public health assistance and examines how mutual aid, incident management coordination, and information sharing can enhance MSCC.

1.2.6 Federal Support to State, Tribal, and Jurisdiction Management (Tier 6)

The Federal Government maintains public health and medical resources to support State, Tribal, and jurisdictional authorities during a mass casualty and/or mass effect incident. The goal of Tier 6 is to maximize MSCC through the optimal integration and management of Federal public health and medical assets. Activation of Federal public health and medical assistance may occur through implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (424 USC 5121, et seq.) or through independent authority of the Department of Health and Human Services (HHS) to declare a Federal public health emergency or disaster.[6] The National Response Plan (NRP) and National Incident Management System (NIMS) provide operational guidance for Federal action. Tier 6 focuses on key functional concepts that promote integration of the Federal response.

1.3 Emergency Management and the Incident Command System

Emergency management and Incident Command System (ICS) concepts serve as the basis for the MSCC Management System.[7] However, unlike traditional descriptions of emergency management and ICS, which organize assets around a defined scene, the MSCC Management System has adapted the concepts to be more applicable to large-scale medical and public health response where there is no defined scene, or where multiple incident scenes may exist (e.g., infectious disease outbreak). Public health and medical professionals must understand the utility of emergency management and ICS concepts as they relate to public health and medical disciplines.[8]

[6]The authority for the Secretary of HHS to declare a Federal public health emergency or disaster is granted under Section 319 of the U.S. Public Health Service Act.

[7]Appendix A highlights several critical assumptions that were made in developing the MSCC Management System.

[8]Appendix B describes the basic ICS for public health and medical personnel.

The following pages examine key distinctions between emergency management and ICS and the roles that each is designed to fulfill *during* a major medical incident.

1.3.1 Emergency Management

Emergency management describes the science of managing complex systems and multidisciplinary personnel to address extreme events, across all hazards, and through the phases of mitigation, preparedness, response, and recovery. Hospital staff and other healthcare personnel might equate emergency management activities to a hospital's Disaster Committee (hence the recommended name change to Emergency Management Committee). The sum of all emergency management activities conducted by a response organization may be collectively referred to as an Emergency Management Program (EMP) for that entity. The term *program* is used because it denotes activity that is continuously ongoing, whereas a *plan* is often considered a series of actions that occur only in response to defined circumstances.

The activities of the EMP address the phases of mitigation, preparedness, response, and recovery. They are based on a hazard vulnerability analysis (HVA), which if properly accomplished, will identify potential hazards, assess their likelihood of occurrence, their potential impact and the organization's vulnerabilities to the impact, and provide a basis for understanding how the hazard likelihood and organizational vulnerabilities can be addressed. Each EMP phase is briefly described below.

- ***Mitigation*** encompasses all activities that reduce or eliminate the probability of a hazard occurrence, or eliminate or reduce the impact from the hazard if it should occur. In Comprehensive Emergency Management, mitigation activities are undertaken during the time period prior to an imminent or actual hazard impact. Once an imminent or actual hazard impact is recognized, subsequent actions are considered response actions and are not called "mitigation." This avoids the confusion that occurs with the HAZMAT discipline's use of mitigation, which applies to response actions that reduce the impact of a hazardous materials spill. Mitigation is the cornerstone of emergency management because any response strategy relies on medical assets surviving a hazard and maintaining operations in the post-impact environment (i.e., medical system resiliency). An effective mitigation effort should begin with, and be based on, a valid HVA as this will help an organization prioritize issues during follow-on mitigation and preparedness planning.

- ***Preparedness*** encompasses actions designed to build organizational resiliency and/or organizational capacity and capabilities for response to and recovery from hazard impacts. It includes activities that establish, exercise, refine, and maintain systems used for emergency response and recovery. The critical task in preparedness planning is to define the system (how assets are organized) and processes (actions and interactions that must occur) that will guide emergency response and recovery. This is accomplished through the development of an effective EOP (see below for suggested EOP formats). Staff should be educated and trained on the system so they gain the knowledge and skills necessary to adequately perform their assigned roles.
  - It is important to note that the procedures and systems used to conduct preparedness activities (committee structure and meetings, memo writing, regular email notification of meetings, etc.) are typically not adequate for use during emergency response. This point is often missed by organizations as they attempt to utilize emergency preparedness committees and their associated structures and processes to manage response to an event. The EOP defines effective process and procedures for the context of emergency response (emergency notification procedures, establishing an incident management team, processing of incident information, etc.). It is recommended that, to the extent possible, emergency response process and procedures be used to conduct preparedness activities.[9]
- ***Response*** activities directly address the hazard impact, including actions taken in anticipation of an impending event (e.g., hurricane, tornado) and actions during and after an impact has occurred. Specific guidance for incident response, including processes for asset deployment, is addressed in an EOP. An effective EOP not only guides the initial (reactive) response actions but also promotes transition to subsequent (proactive) incident management.
- ***Recovery*** activities restore the community to "normal" after a major incident. The initial recovery stage (which actually begins in the late stages of response) is integrated with response mechanisms, and the EOP incident management process should be extended into recovery. The management transition from response to recovery (both timing and methods) must be carefully planned and implemented to avoid problems. As recovery progresses, recovery

[9]Many of these procedures increase the efficiency of preparedness activities, while essentially training participants on the procedures to be used during response and recovery. Examples include the use of emergency notification procedures for disseminating preparedness information, the use of a management- by- objective approach when planning preparedness tasks, and using tightly managed meetings with detailed agendas.

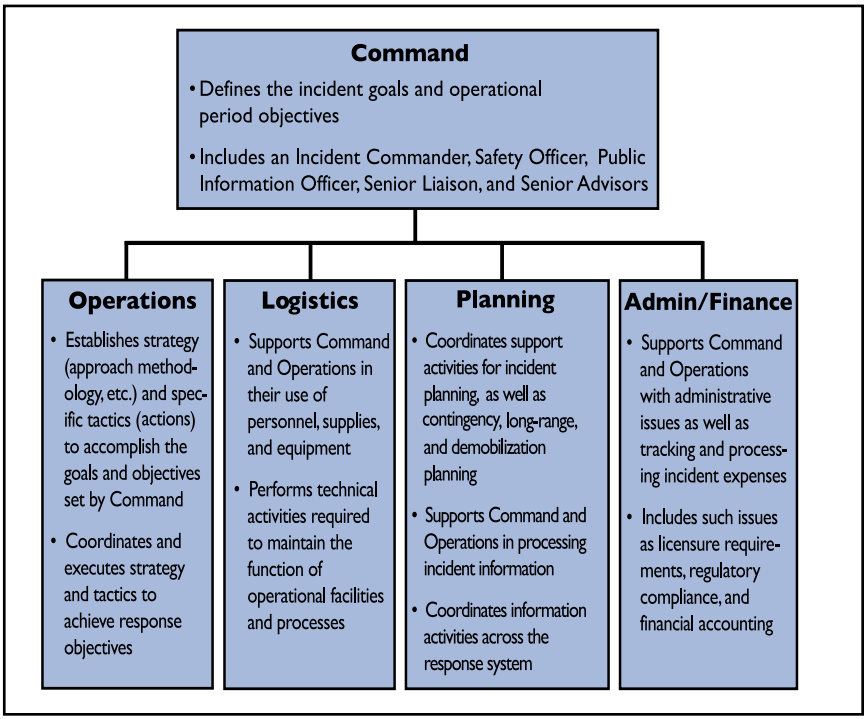
management transitions to regular agency management processes or some intermediate method defined by the responsible organizations.

1.3.2 Incident Command System

The ICS provides guidance for how to organize assets to respond to an incident (system description) and processes to manage the response through its successive stages (concept of operations). All response assets are organized into five functional[10] areas: Command, Operations, Planning, Logistics, and Administration/Finance. Figure 1-3 highlights the five functional areas of ICS and their primary responsibilities.

The ICS, as described in NIMS, refers to the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure and designed to aid in the management of resources during incident response. The ICS is based on eight concepts that contribute to the successful application of this system (Exhibit 1-3).

Figure 1-3. Incident Command System



[10]A *function* is a key set of tasks that must be performed during incident response. They are grouped according to similarity of purpose but are not positions, per se, because each could entail multiple persons working to fulfill that function.

Exhibit 1-3. Incident Command System Core Concepts

Common terminology—use of similar terms and definitions for resource descriptions, organizational functions, and incident facilities across disciplines.

Integrated communications—ability to send and receive information within an organization, as well as externally to other disciplines.

Modular organization—response resources are organized according to their responsibilities. Assets within each functional unit may be expanded or contracted based on the requirements of the event.

Unified command structure—multiple disciplines work through their designated managers to establish common objectives and strategies to prevent conflict or duplication of effort.

Manageable span of control—response organization is structured so that each supervisory level oversees an appropriate number of assets (varies based on size and complexity of the event) so it can maintain effective supervision.

Consolidated action plans—a single, formal documentation of incident goals, objectives, and strategies defined by unified incident command.

Comprehensive resource management—systems in place to describe, maintain, identify, request, and track resources.

Pre-designated incident facilities—assignment of locations where expected critical incident-related functions will occur.

For ICS to be effective, the incident must be formally defined so that there is clarity and consistency as to what is being managed. This may be best accomplished by defining the *incident response* through delineation of response goals and objectives, and by explaining response parameters through an Incident Action Plan (IAP)—the primary documentation that is produced by the incident action planning process (Exhibit 1-4).[11]

[11]Key components of an incident action plan are presented in Appendix C.

Exhibit 1-4. Defining the Incident Response

Early in the response to the Pentagon on 9/11, incident command (headed by the Arlington County, VA, Fire Department) defined the incident as managing the fire suppression, building collapse, and the search and rescue activities at the Pentagon. It did not include objectives for managing the disruption of traffic or other countywide ramifications of the plane crash. Arlington County emergency management officials, therefore, quickly knew they had to manage these other problems through their Emergency Operations Center (EOC), which was geographically separate from, but closely coordinated with, incident command at the Pentagon.

The utility of ICS becomes evident when analyzing the demands encountered during an incident response (Figure 1-4).

Figure 1-4. Types of Demands Encountered in Incident Response

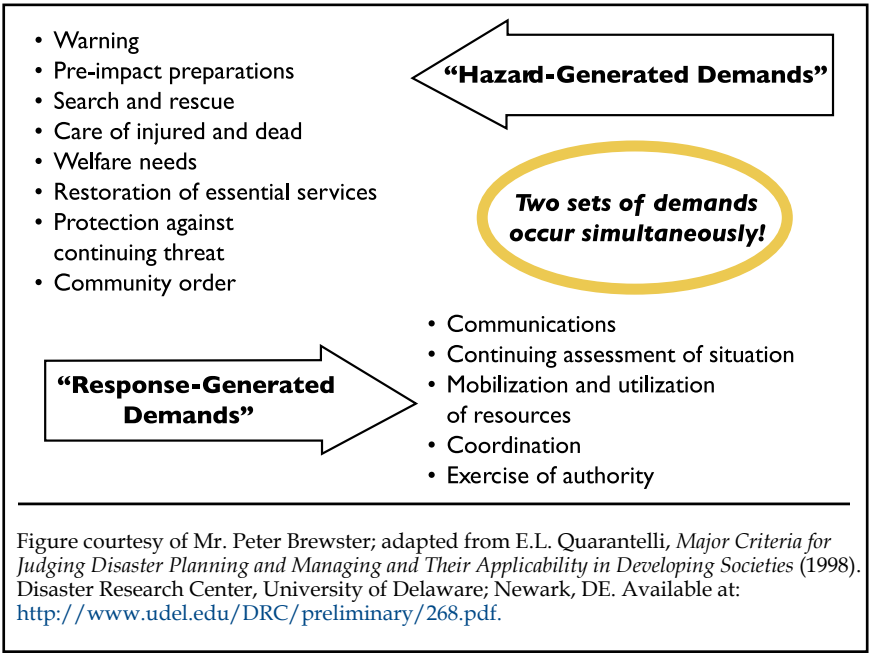


Figure courtesy of Mr. Peter Brewster; adapted from E.L. Quarantelli, *Major Criteria for Judging Disaster Planning and Managing and Their Applicability in Developing Societies* (1998). Disaster Research Center, University of Delaware; Newark, DE. Available at: http://www.udel.edu/DRC/preliminary/268.pdf.

When an incident generates demands on the response system, the issues addressed first are usually demands created by the hazard itself—*hazard-generated demands*. For example, in a highly contagious disease outbreak, hazard-generated demands include the need to evaluate and treat victims, while controlling the spread of the disease. Simultaneously, the response system itself creates *response-generated demands.* In the same example, these demands include the need to coordinate disparate resources, to process widely dispersed data into accurate epidemiological information, to coordinate the public message, and to protect healthcare workers. Too often, the response community focuses on the hazard demands and neglects response demands until the latter create a significant impediment to overall response effectiveness. With well-developed ICS and emergency management support, the incident response proactively addresses *both* types of demands and, in fact, reduces many response-generated demands to routine status.

1.4 The Incident Command Process

The incident command process describes an ordered sequence of actions that accomplishes the following:

- Activates the system and defines the incident response structure
- Establishes incident goals (where the system wants to be at the end of response; these are referred to as "control objectives"[12] in NIMS)
- Defines incident operational period objectives (measurable steps that contribute to reaching the goal) and strategies to meet the defined objectives
- Adequately disseminates information, including the following, to achieve coordination throughout ICS:
  - Response goals, objectives, and strategies
  - Situation status reports
  - Resource status updates
  - Safety issues for responders
  - Communication methods for responders
  - Assignments with individual assignment objectives and operating parameters

[12] "Control objectives" is the NIMS term for overall incident response goals and are not limited to any single operational period (thus distinguishing them from operational period objectives).

- Evaluates strategies and tactics for effectiveness in achieving objectives and monitors ongoing circumstances
- Revises the objectives, strategies, and tactics as dictated by incident circumstances.

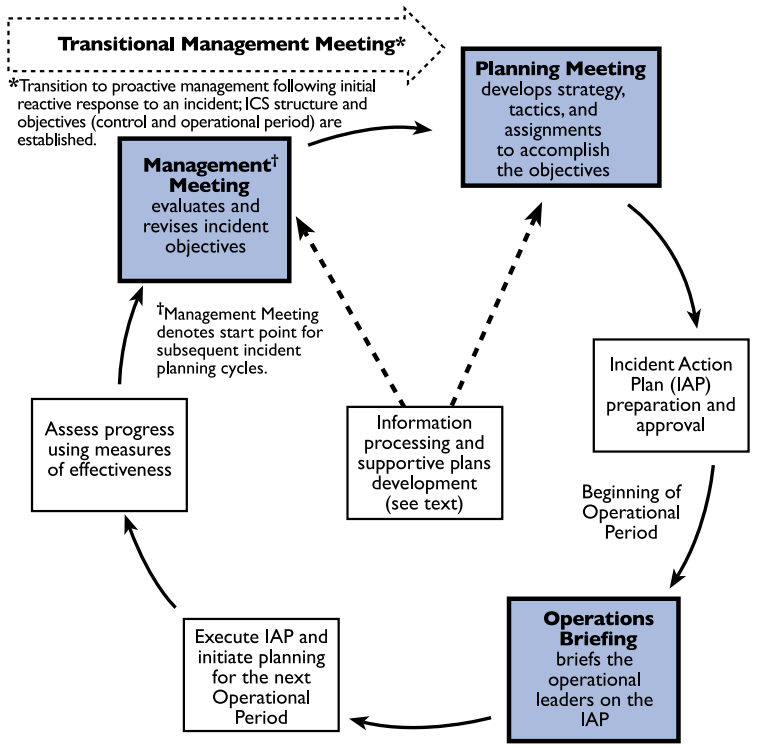
Actions during the initial phases of incident response should be guided by checklist procedures established in the EOP. For any response of more than a few hours, management should transition to a method of proactive response by establishing incident-wide objectives. These overarching "control objectives" are further qualified by establishing measurable and attainable objectives for each operational period, and by defined strategies and tactics. All are documented in an IAP. Because event parameters and the status of the components of an asset will change, incident objectives will have to change as the response evolves.

This flux in incident and response conditions is best managed using a deliberate planning process that is based on regular, cyclical reevaluation of the incident objectives. Commonly known in ICS as the planning cycle (see Figure 1-5), this iterative process enhances the integration of public health and medical assets with other response agencies that operate planning cycles.

The timing of the development of incident action plans should be coordinated among disciplines so that updated information may be shared before strategies and objectives are established. As shown in Figure 1-5, the key steps in the planning cycle are:

- **Transitional management meeting:** This marks the transition from reactive to proactive incident management. The transitional meeting brings together the leadership of key response disciplines, defines the primary incident management team, and allows managers to be briefed on the known incident parameters. If the lead incident commander determines that formal incident planning is warranted, the command staff set initial incident goals (i.e., control objectives) and operational period objectives and the planning cycle process moves forward.
- **Planning meeting:** Using the objectives set during the transitional (or a subsequent) management meeting, the incident management team, with leaders of key functional areas, sets strategies, general tactics, and major assignments. These are documented by the Planning Section and become a central component of the IAP. For public

Figure 1-5. Basic Presentation of a Planning Cycle[13]



Adapted from *Medical and Health Incident Management (MaHIM) System: A Comprehensive Functional System Description for Mass Casualty Medical and Health Incident Management,* by J. A. Barbera and A. G. Macintyre, October 2002.

health and medical disciplines, documentation of an IAP has rarely been undertaken as an essential action during response, and yet it is one of the most effective means for coordinating between multiple locations, resources, and levels of government (see appendix C for an example of an IAP). The addition of supportive plans[14] completes the IAP for the upcoming operational period.

- **Operational briefing:** All components of the response system are briefed on the operational period objectives, strategies, tactics, and assignments. The purpose of the operational briefing is to impart information and to raise emergent issues, not to discuss alternative

[13]While ICS descriptions of the meetings in the planning process vary across versions, this diagram encompasses the principle actions in all versions of the ICS planning cycle.

[14]Supportive plans include the Safety Plan, the Medical Plan (for responders), communications plan, contingency plans, and others.

plans, debate choices made in the planning process, or undertake extensive problem solving. In traditional descriptions of ICS, the operational briefing occurs in person, but it may also occur telephonically or through electronic communications. A defined briefing process imposes discipline for the operational briefings so that time constraints are met, distractions are limited, and questions are kept to a minimum.

- **Management meeting:** This marks the onset of the next planning cycle. The incident command staff reevaluates the control objectives and progress made in meeting the operational period objectives, based on information collected throughout the operational period. Objectives are revised and new ones are established as appropriate.

The following critical points should be made about the planning cycle:

- Tiers, and assets within tiers, should attempt to coordinate their planning cycles with that of the primary incident command. This allows information exchange between assets and tiers to promote consistency in the development of incident objectives and strategies.
- A planning cycle is timed so the operational briefing occurs just before the beginning of work that is guided by the recently completed IAP. This work interval is usually referred to as an *operational period.* It is beneficial, therefore, for assets directly managed by the IAP to establish common operational periods.
- Throughout the action planning process, the Planning Section plays a critical role by stewarding the planning activities and processing data into information that is relevant to incident decision-making.

1.4.1 Incident Command versus Regular Administration of an Organization

During an emergency, the normal administrative structure for an organization must continue to operate while actions are carried out under the EOP to address the incident. Issues not related to the incident are best managed, to the extent possible, by the usual, day-to-day administrative system. In a sense, the ICS structure works within and for the organization's usual administrative system. This concept may be obvious to some

disciplines such as Fire Fighting (the entire Fire Department is not replaced by the ICS structure during response) but may not be as intuitive in the example of smaller organizations such as some healthcare facilities.

For this reason, it is generally NOT advisable for the Chief Executive Officer (CEO) or other senior executive to automatically assume the position of the Incident Commander (IC) for an organization. Instead, this individual may be better situated to serve in the role ICS denotes as "Agency Executive."[15] This individual maintains overall authority and responsibility for the organization, including the activated incident management team. The executive is involved in the incident by providing policy and strategic direction to the IC, as well as allocating the authority to the IC to manage the incident. The Agency Executive must have access to the IC and may be included in the incident planning meetings.

This concept of an Agency Executive is important for organizations to understand as they seek to develop an effective EOP and interface with other organizations. Even though the ICS for the organization may be clearly delineated, the role of the Agency Executive is not always well addressed.

1.4.2 Unified Command

Multiple organizations may have leadership responsibilities during a mass casualty and/or mass effect event. ICS has a designated model, Unified Command (UC), which allows multiple stakeholders to actively participate in incident management (Exhibit 1-5). When this occurs, the resulting UC team promotes cohesive action within the response system, and provides a uniform interface for integration with other tiers. This concept is critically relevant for participation by public health and medical disciplines since they bear a primary responsibility for the well-being of responders and the general population during emergencies or disasters. The UC model provides a mechanism for direct input from public health and medical practitioners at the decision-making level.

[15]Agency Executive is defined as the Chief Executive Officer (or designee) of the agency or jurisdiction that has responsibility for the incident (FEMA ICS definition).

Exhibit 1-5. Unified Command (UC)

UC brings together incident managers of all major organizations involved in the incident to coordinate an effective response, while allowing each manager to carry out his/her own jurisdictional or discipline responsibilities. UC links response organizations at the leadership level, thus providing a forum for these entities to make joint decisions. Under UC, various jurisdictions and/or agencies and non-government responders may work together throughout the incident to create and maintain an integrated response system. UC may be established to overcome divisions from:

- Geographic boundaries
- Government levels
- Functional and/or statutory responsibilities
- Some combination of the above.

(Adapted from: U.S. Coast Guard Incident Management Handbook, U.S. Coast Guard COMDTPUB P3120.17, April 2001)

Unified, proactive incident command is accomplished through joint decision-making that establishes common incident objectives (i.e., management by objectives). During an incident, clearly delineated goals and objectives are agreed on and formally documented to form the basis of the IAP. To accomplish this strategic guidance throughout an incident, UC must entail:

- A single integrated management structure for the emergency response
- Shared or co-located management facilities
- A single planning process and IAP (single set of goals and objectives)
- A coordinated process for requesting and managing resources.

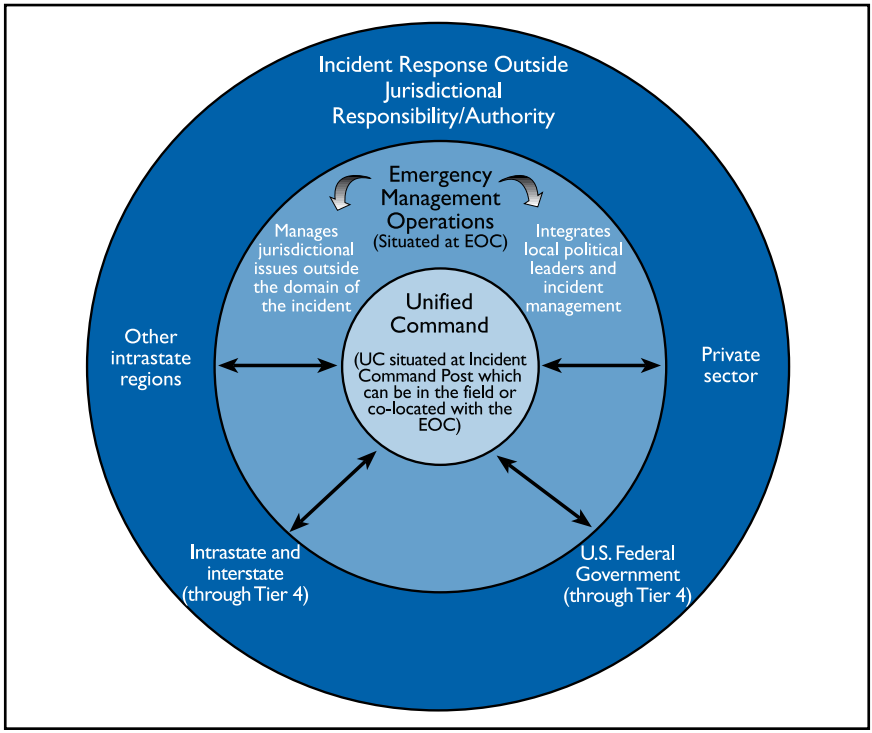
1.4.3 Incident Command Versus Incident Support

As previously described, Command and Operations are primarily supported by three *internal* (within ICS) Sections: Logistics, Planning, and Administration/Finance. However, in large-scale or complex events, incident command may require additional support from entities outside the responsibility/authority of ICS. This commonly occurs through

an emergency management operations function—known in NIMS as a Multiagency Coordination System (MACS)—that is usually based in an Emergency Operations Center (EOC).[16] For Tier 3, it is usually supervised by the jurisdiction's emergency manager (Figure 1-6).

Multiagency Coordination Systems provide the architecture to support coordination for incident prioritization, critical resource allocation, communications systems integration, and information coordination.[17] The coordination center (EOC and others, see figure 1-7) is referred to in NIMS as the Multiagency Coordination Center (MACC) component of the MACS. It provides support and coordination to the Incident Command, facilitates logistical support, and develops and provides information. The

Figure 1-6. Relationship of UC and the MACS that provide emergency management operations support to the UC.



[16]Additional information on MACS can be found in Chapter 2 of the NIMS, available at: http://www.fema.gov/emergency/nims/index.shtm.

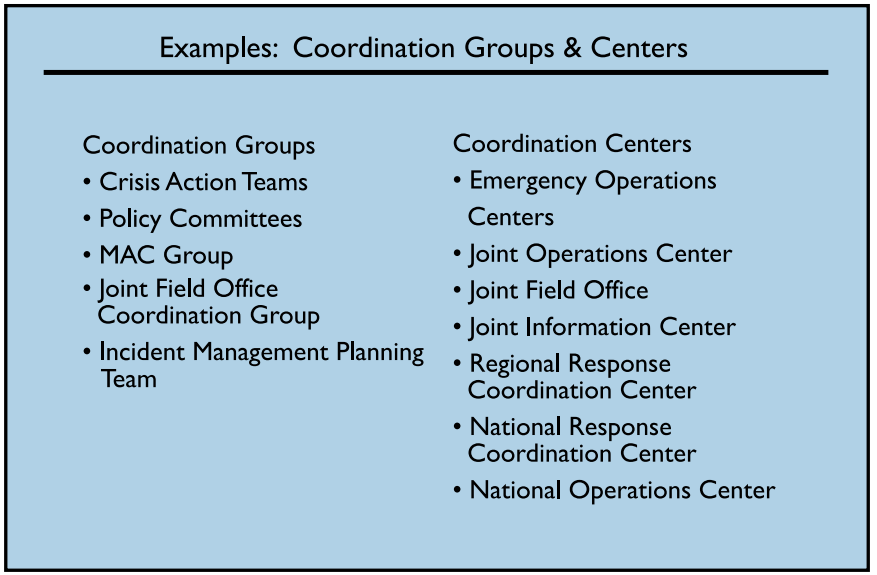
[17]The components of MACS (per NIMS) include facilities, equipment, emergency operation centers (EOCs), specific multiagency coordination entities, personnel, procedures, and communications. These systems assist agencies and organizations to fully integrate the subsystems of the NIMS (NIMS glossary).

component of the MACS that provides strategic decision-making and policy direction (senior policy groups and others) is referred to as the Multiagency Coordination Group (MAC Group).[18] The MACC implements the MAC Group decisions.[19]

During response, the MACS:

- Directly *supports* the UC by providing resources that are not available through incident-specific ICS capabilities. This includes coordinating assistance from outside resources (Federal, State, and other jurisdictions) that cannot be obtained through tactical mutual aid.

Figure 1-7. Common types of Multiagency Coordination Groups and Centers[20]



[18]Multiagency Coordination Group: A Multiagency Coordination Group functions within a broader multiagency coordination system. It may establish the priorities among incidents.

[19]ICS 300 Unit 5: Multiagency Coordination; available through FEMA Emergency Management Institute, Emmitsburg, MD.

[20]ICS 300 Unit 5: Multiagency Coordination; available through FEMA Emergency Management Institute, Emmitsburg, MD.

- Directly *manages* emergency issues related to the incident, but that are outside the scope of the incident as defined by the UC. This may be determined geographically (outside a scene perimeter) or functionally (beyond the scope of the UC control objectives when no single scene exists or when the impact is diffuse). An example is provided in Exhibit 1-6.
- Provides integration between community political leaders and the incident managers.

Exhibit 1-6. Infectious Disease Outbreak Example

In the event of a widespread outbreak of SARS in a jurisdiction, the UC (with lead participation by public health and the acute-care medical community) would establish protocols to guide the medical evaluation and treatment of confirmed and suspected cases, and to address surge capacity needs. In addition, the UC would be responsible for limiting the spread of the disease (as defined by their IAP).

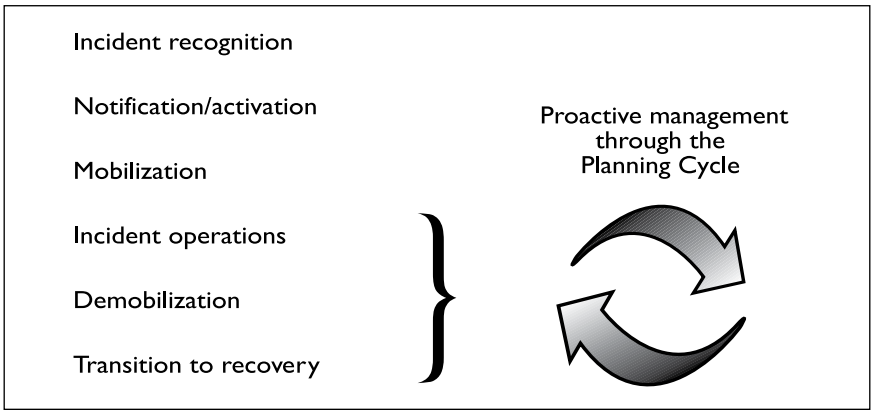
Addressing the needs of travelers stranded when mass transit is disrupted, addressing requests to minimize the effect of school or business closures, and other significant issues may be considered to be functionally outside the scope of the incident response system. The jurisdiction's EOC would manage these issues using its emergency management team and Emergency Support Functions (ESFs), or other task groups.

Because of its complex role, the EOC's organization and management processes must be well defined. The MACS functions should be physically separate from incident management activities, even if they are co-located in the same facility. This critical concept, which is not widely addressed by many medical and public health managers, ensures that the roles and responsibilities of each remain distinct.

1.5 Concept of Operations

The management process delineated in the MSCC Management System is best presented in relation to the various stages of incident response (Figure 1-8).

Figure 1-8. Stages of Incident Response



These stages provide the context in which to describe the critical actions that must occur at different times during incident response.

1.5.1 Incident Recognition

Incident recognition is the point in time when a response agency becomes aware that a significant event (i.e., one requiring emergency response beyond baseline operational capability) is imminent or occurring. This is not always obvious, particularly with the onset of an infectious agent or chemical toxin. For example, one or two patients presenting to scattered HCOs with progressive paralysis indicating botulism may not be immediately recognized as a major public health problem until they are linked to a single toxin source. Because of this potential ambiguity, the process used to move from an early suspicion to recognizing that incident response is indicated should be carefully considered. Early convening of the jurisdiction's (Tier 3) UC, for example, may provide the necessary understanding of any public health impact associated with an event, and it may clarify whether an event needs to be formally declared an emergency.

1.5.2 Notification/Activation

Notification/activation refers to the activities required to inform appropriate assets within the response system about an incident onset or an important change in incident parameters. "Notification" conveys critical details (if available) and an indication as to whether the notified asset should undertake response actions. Full activation of every response

component under UC is often not necessary and, therefore, the activation request in each asset's notification message may vary depending on the type of event.

Many notification/activation categories and schemes have been promulgated. *Those selected for use should be consistent within tiers and easily understood across other tiers.* To further prevent confusion, the categories should be clearly defined on each communication. The Federal Urban Search and Rescue System (and other Federal agencies) have used one notification/activation categorization for over a decade because of its clarity and simplicity (Exhibit 1-7).

Exhibit 1-7. Federal Urban Search and Rescue Notification/Activation Categories

- **Advisory:** Provides urgent information about an unusual occurrence or threat of occurrence, but no significant action is recommended, re quested, or required.
- **Alert:** Provides notification of an unusual occurrence where a response is anticipated or indicated. It provides guidance on the degree of action to take at the time of the alert. In some systems, an alert from a designated agency also authorizes the expenditure of a specific funding amount to address the costs of the requested pre-mobilization actions.
  - **Activation:** May be either partial or full:
  - Partial: Specific components or assets within a unit are activated (all other components should receive notification regardless of their activation status).
  - Full: All resources commence response according to procedures described in the asset's EOP.

Other information is conveyed through "updates" during the course of the incident response.

Sources: Adapted from FEMA Urban Search and Rescue System; J. A. Barbera and A. G. Macintyre. *Jane's Mass Casualty Handbook: Hospital*; Jane's Information Group, Ltd., Surrey, UK, 2003.

The notification process should include a "confirmation of receipt" reply from the intended recipient. This reply should also contain a brief status report from the notified asset (using a standard format developed during preparedness planning) to allow immediate assessment of the response asset's capabilities.

1.5.3 Mobilization

Mobilization marks the transition from baseline operations to the response level designated in the notification. It may be triggered by a hazard that has already occurred, or it may result from a credible threat or an impending hazard (such as an approaching hurricane). Designating the response level enables an organization to execute specific actions delineated in its EOP for that level, such as providing contact information to ensure that the asset can integrate with other mobilizing response entities. For the mobilization process to function efficiently, each step must be clearly defined during preparedness planning and staff must learn the steps through training.

1.5.4 Incident Operations

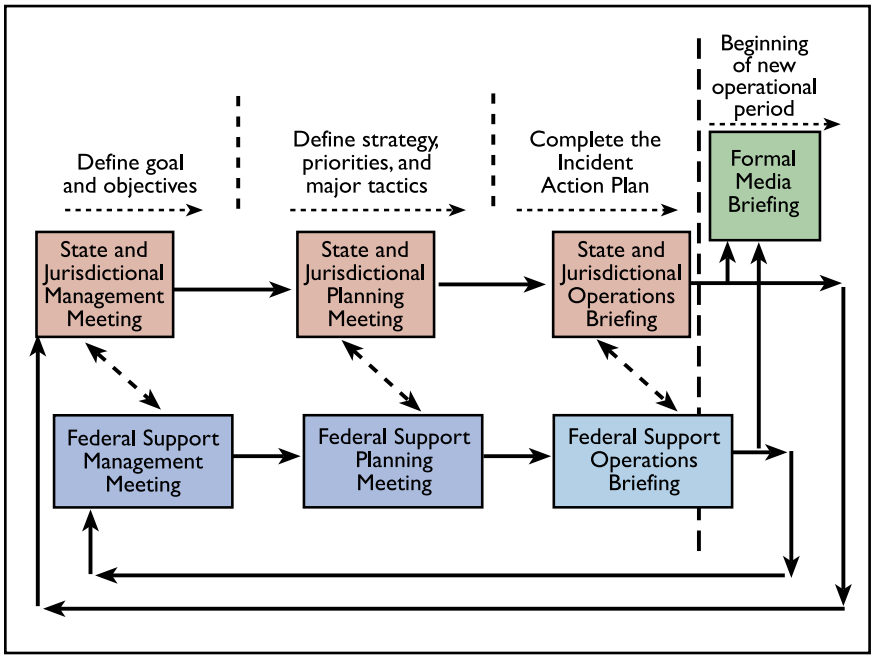
Incident operations encompasses efforts that directly address the hazard impact. Two critical actions that should occur early during operations are:

- ***Establishment of incident management authority:*** For certain types of incidents, the lead management authority and how incident management will be conducted are relatively straightforward (e.g., local fire service usually manages an explosion at a shopping mall). Management authority is more ambiguous in events that extend across jurisdictional boundaries or authorities (e.g., bombing at a Federal facility) or when the impact is diffuse (e.g., disease outbreak in multiple State jurisdictions). For most major incidents, tradition (and successful previous experience) dictates that jurisdictional authorities are responsible for incident management. For a diffuse impact scenario, State public health authorities (in a UC model similar to "area command" described in NIMS) might assume the lead role in UC and coordinate the incident response across the affected jurisdictions.
- ***Establishment of Incident Command Post:*** The site where the *primary* incident management team will function must be rapidly established and publicized across the response system. During any sudden onset or large-scale incident, several initial management sites are often established and operated by multiple disciplines from a range of MSCC tiers. The terminology used to designate them may not reflect their actual roles. Thus, identifying and publicizing the primary management site and how it integrates the other sites is a critical task in organizing incident-wide, proactive management.

When incident response involves multiple disciplines and levels of government, it becomes operationally important to synchronize, as much as possible, the planning activities of participants so that response actions can be coordinated (Figure 1-9). This promotes consistency across tiers in defining the incident objectives and follow-on tactics. It also ensures consistency in the development of public messages.

As Figure 1-9 shows, the planning cycles and operational periods for the jurisdiction (Tier 3) and State (Tier 4) are concurrent; those for the Federal response (Tier 6) are slightly staggered. This allows for information exchange during planning activities. The agency representative meeting enables the evolving IAP to be reviewed in time to identify conflicts before briefing the operational units. This meeting can be conducted face-to-face or via teleconference. A formal media briefing to release incident details could occur after the agency representative meeting to ensure that responders are informed first and to promote a consistent message.

Figure 1-9. Coordination of Planning Activities



1.5.5 Demobilization

Demobilization refers to activities that focus on disengaging response resources as the incident objectives are met, transitioning remaining incident responsibilities to ongoing assets, and promoting rapid return of demobilized response resources to their normal function. There are several important considerations:

- ***Demobilization across assets:*** The timing of resource demobilization is a complex and difficult decision, with potentially competing priorities between incident managers and managers of individual assets. The managers of individual assets and agencies should always coordinate any decision with the overall incident command. Demobilization of individual assets may occur at widely varying times, with some taking place early in a response if objectives have been met.
- ***Representing demobilization to the media and public:*** Management of the public's perception of asset demobilization may be very important, depending on the incident and the asset (e.g., the public believing the event is not over, thus being dismayed that an asset is disengaging). This should be considered carefully and addressed through incident management processes, including public information action that demonstrates that the asset's objectives have been accomplished and it is no longer needed.
- ***Continued use of ICS during demobilization:*** For medical resources, demobilization (and initial recovery) must occur efficiently because medical backlogs created during response can present a significant risk to the asset's regular patient population (e.g., delays in performing cardiac catheterizations), as well as a financial risk (e.g., loss of revenue from elective surgery). The continued use of ICS processes may be beneficial in addressing backlogs and should be considered during planning for both individual asset and overall incident demobilization.

1.5.6 Recovery

Recovery refers to longer-term activities that extend beyond demobilization and other response activities. It includes the rehabilitation of personnel and equipment, resupply, and actions related to physical and financial restoration. Returning the overall system to its pre-incident

state—the goal of the recovery stage—is addressed by developing and implementing strategic plans for full restoration and system improvement.

1.5.7 Post-Incident "Organizational Learning"

Post-incident "organizational learning" is achieved through a timely and objective after-action report process that is designed to capture the positive aspects *and* the shortcomings of the response system. Findings should be documented in an outline format that can be organized on a spreadsheet and tracked. One basic format that has been widely successful is designed to capture, for each issue, a brief description of the issue, background information, recommendations, and follow-up actions. Improvements should focus on the EOP organization, processes, and training or equipment/supply issues, rather than on individual personnel actions. The review should also examine how effectively each asset integrated into the overall system, as well as how the response tiers coordinated with each other. Indicated changes should be accomplished based on priority and incorporated into the appropriate documentation.

1.6 The Public-Private Divide

This chapter has presented several key concepts of ICS on which the MSCC Management System is based. A difficulty with applying traditional ICS in major medical and public health incidents is that it is designed primarily for management participation by public safety personnel. It is difficult within ICS to identify defined mechanisms for incorporating private sector assets into incident management, even if they are essential in providing leadership-level expertise for the incident. This problem was apparent in New York City after 9/11, where it was challenging to efficiently incorporate engineering deconstruction expertise (largely a private sector asset) into incident management.[21] This issue is particularly problematic for medical input into incident management because specialty medical expertise in the United States resides primarily in the private sector.

[21]This observation was made by Dr. Joseph Barbera, who was present at the World Trade Center site in the days and weeks following the attacks.

The World Trade Center experience in the aftermath of 9/11 and the response to Hurricane Katrina demonstrated many factors that can exacerbate the public-private divide:

- Private assets may have conflict-of-interest issues when participating in public management.
- Public agency officials may be reluctant to accept high-level management advice because they may not be comfortable with the source's objectivity or expertise. This is more likely if in-depth familiarity was not established during preparedness planning.
- Private-sector assets do not have the liability immunity for public management that is enjoyed by public officials when acting within their established capacity. This may create a reluctance to engage in public decision-making without reliable assurance that they will not incur unacceptable legal risk.

Response systems for public health and medical incidents must identify and implement methods to bridge the public-private divide. Depending on the type of incident, qualified medical experts may provide strategic advice through a formal position in UC or as senior advisors to the UC. Alternatively, they may serve as technical specialists when their input is provided at a tactical level. Regardless of the approach, qualified medical experts must know when and how to interface with incident management (as they are rarely in charge of major response), and understand other implications of mass casualty and/or mass effect events. These experts should be selected from the medical community for their ability to accurately and fairly represent the collective interests of the private sector by providing the following:

- Advice as it relates to medical operations
- Evaluation of management options for addressing medical issues
- Peer review of public messages for medical accuracy and clarity
- Peer review of messages to the professional medical community to promote accuracy of the message and acceptance by participating medical responders
- Other assistance or expertise, as indicated.

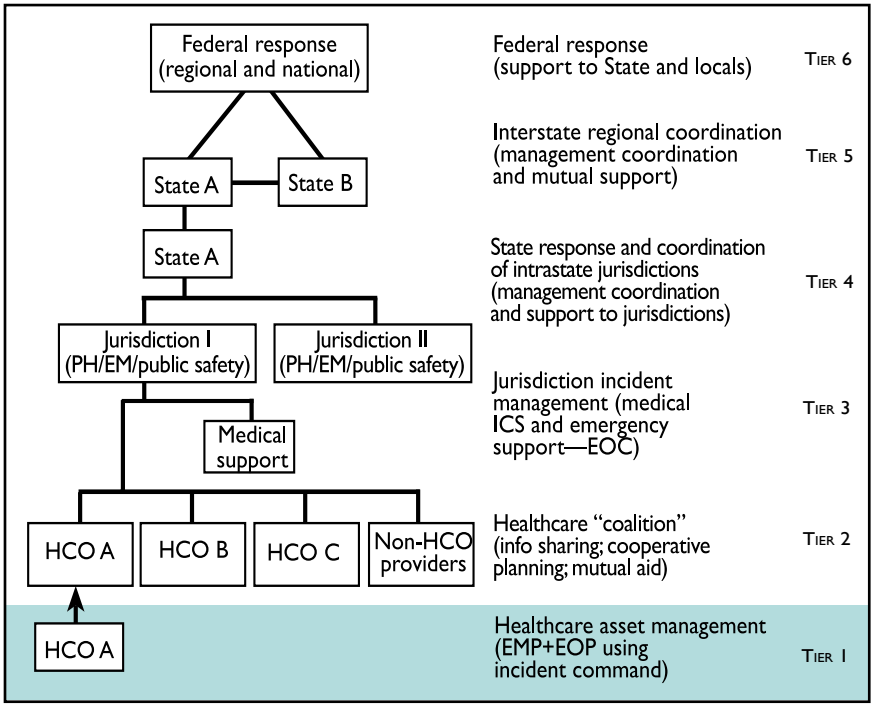
NOTES

NOTES

Chapter 2: Management of Individual Health-care Assets (Tier 1)

Contents

Management of Individual Healthcare Assets (Tier 1)



Tier 1 is the primary site for point-of-service (i.e., hands-on) medical evaluation and treatment. It includes hospitals, integrated healthcare systems, clinics, community health centers, alternative care facilities, private practitioner offices, nursing homes and other skilled nursing facilities, hospice, rehabilitation facilities, psychiatric and mental health facilities, and Emergency Medical Services (EMS).[1] The Medical Reserve Corps and State and Federal healthcare assets (e.g., Veterans Affairs Hospitals) that are co-located within a jurisdiction also fall into Tier 1 because they may become local assets for emergency response.

[1]EMS is not usually included in this category and is not a facility per se. In a major emergency or disaster, however, EMS may provide definitive medical care in the field and should be integrated into Tier 1.

KEY POINTS OF THE CHAPTER

In a mass casualty and/or mass effect incident, the vast majority of medical care is provided at the local level in hospitals, outpatient clinics, community health centers, and private physician offices. The success of an incident response, therefore, depends in part on how well these and other point-of-service healthcare organizations (HCOs)[2] are managed and their ability to coordinate with other response agencies.

The ability of an HCO to optimally manage its resources *and* to integrate with the larger response community is driven by its Emergency Management Program (EMP). The EMP includes all activities undertaken by the HCO to mitigate, prepare for, respond to, and recover from potential hazards. An integral component of the EMP is the Emergency Operations Plan (EOP), which defines the management structure and methodology to be used by an HCO during emergency response. The EOP is critically important because it also describes the management processes that enable the HCO to coordinate its actions with other responders.

The two Incident Command System (ICS) functions that facilitate cooperation among HCOs and integration with the larger response community are the Command element and the Planning Section:

- ***HCO Incident Command:*** As an incident unfolds, the HCO incident management team must rapidly transition from reactive to proactive management by establishing HCO incident objectives and setting an overall HCO strategy for response. Information will have to be obtained from both inside and outside the HCO to conduct adequate response planning. A defined management structure that specifies roles for HCO personnel facilitates internal organization and external integration.

[2]In this document, an HCO is any hospital, integrated healthcare system, private physician office, clinic, nursing home or other skilled nursing facility, or other resource (as listed on page 2-2) that may provide point-of-service medical care.

- ***HCO Planning Section:*** The development of incident action plans (IAPs) and support plans allows the HCO incident management team to remain proactive, even as the incident parameters change. Likewise, a well-defined information function that is always operational (even at a minimal baseline during times of non-response) allows an HCO to rapidly process and disseminate vital incident-related data to divisions within the HCO and to outside responders. This promotes coordination with other entities and consistency across the response system.

2.1 THE ROLE OF THE HCO IN MSCC

Patient evaluation and care in emergencies or disasters is provided primarily at community-based hospitals, integrated healthcare systems, clinics, community health centers, private physician offices, and other point-of-service medical facilities. These assets, therefore, must be centrally involved in the development of MSCC strategies. To maximize overall MSCC, efforts must extend beyond optimizing internal HCO operations and focus on integrating individual HCOs with each other and with non-medical organizations. Such integration ensures that decisions affecting all aspects of the community response are made with direct input from medical practitioners, thus establishing medical care, *along its continuum*, as an essential component of incident management.[3] This chapter examines management processes that effectively integrate HCOs into the larger response community. ***It is not intended to describe a comprehensive internal management system for individual HCOs.***[4]

2.2 HCO EMERGENCY MANAGEMENT PROGRAM

To adequately provide MSCC, individual HCOs must have a comprehensive EMP that addresses mitigation, preparedness, response, and recovery activities for major public health and medical incidents. A valid hazard vulnerability analysis (HVA) forms the cornerstone of the EMP. The HVA is conducted by HCOs to define and prioritize a strategy for mitigation preparedness, response, and recovery based on the perceived risk (i.e., likelihood of hazard occurrence and vulnerability to the hazard impact) posed by potential hazards to HCO (Exhibit 2-1).

[3] In contrast, the traditional Incident Command System (ICS) model assumes that incident management is no longer responsible for patients once EMS transports patients to HCOs.

[4] Many other descriptions exist for individual HCO management, including the *Hospital Incident Command System (HICS),* State of California, Emergency Medical Services Authority, Available at http://www.emsa.ca.gov., and *Emergency Management Principles and Practices for Healthcare Systems*, The Institute for Crisis, Disaster, and Risk Management (ICDRM) at the George Washington University; for the Veterans Health Administration (VHA)/U.S. Department of Veterans Affairs (VA), Washington, D.C., June 2006. Available at: http://www1.va.gov/emshg/page.cfm?pg=122.

Exhibit 2-1. Hazard Vulnerability Analysis (HVA)[5]

The primary objective of an HVA is to identify hazards and the vulnerability (i.e., susceptibility) to hazard impacts, and to prioritize EMP initiatives. Many models and guides are available to develop an HVA, but the critical components may be accomplished through the following steps:

- ***Hazard identification***. Identify and list, by type, all hazards that could affect the location or asset of interest, and the relative likelihood of each hazard's occurrence ("threat").
- ***Vulnerability determination***. For each hazard, develop an assessment of both the community and the response system's susceptibility to the hazard impact. For MSCC, this includes:
  - The community vulnerability in terms of potential post-impact health and medical needs of the population
  - The medical response system's vulnerability to each hazard (both the vulnerability of the system's baseline operations and its ability to surge).
- ***Analysis of the vulnerabilities***. Use a systems-based approach to:
  - Break down each hazard vulnerability into its key components
  - Identify components that are common across multiple hazards
  - Identify issues that create extremely high-stakes weaknesses
  - Compare relative cost-benefit ratios between the many possible mitigation and preparedness interventions.

While no HVA instrument can provide precise stratification of hazard threat and vulnerability for an asset or community, the HVA exercise should provide a *basis for developing priorities* among the many options that can reduce risk and enhance preparedness. From the HVA findings, the HCO can prioritize initiatives for mitigation and preparedness, and develop plans to address the identified vulnerabilities during response and recovery. If approached in this fashion, the HVA has maximum applicability to an EMP. In addition to guiding internal HCO mitigation and preparedness, the HVA activities can foster relationships with other local HCOs (Tier 2), with jurisdictional authorities (Tier 3), and with non-health-related organizations by highlighting common threats facing them (Exhibit 2-2).

[5]For a detailed discussion of the HVA for healthcare systems, see Emergency Management Principles and Practices for Healthcare Systems: Unit 1, Lessons 1.3.3 and 1.3.2. Available at: http://www1.va.gov/emshg/page.cfm?pg=122.

Exhibit 2-2. Developing Relationships with Non-Health-Related Organizations

Universities and other educational facilities may find it beneficial to address some aspects of preparedness planning in partnership with a nearby HCO. Because the threats they face may be similar, each should understand the other's vulnerability in order to effectively plan. For example, the HCO should have a sense of the number of students and staff that might be affected by identified hazards, and the university should know the patient-receiving capacity of the HCO so that it can plan for additional resources if necessary. This relationship can extend to the preparedness phase, with each organization's strengths offered to help address the other's vulnerabilities. The university may provide housing and temporary staging facilities for HCO evacuation, whereas the HCO's patient tracking and family assistance mechanisms may be used to rapidly inform the university of the location and status of students transported there for care (which addresses a significant area of university vulnerability in meeting parental expectations).

Senior executives at HCOs have ultimate responsibility for the development, implementation, and maintenance of their institution's EMP, and often appoint an emergency management coordinator to perform EMP activities.[6] In addition, an EMP committee composed of senior-level representatives from major departments within an HCO is usually established to review all EMP-related work and to provide expert input into the development of the HCO's EOP. The following are brief descriptions of key activities in the four phases of the EMP that promote integration with the larger response community.

2.2.1 Mitigation

Mitigation is the process of planning for and implementing measures to prevent the occurrence of potential hazards. It also includes actions undertaken to minimize the impact of a hazard should one occur. It is advantageous to collaborate with other HCOs and with non-medical responders when identifying mitigation activities, as this (1) may help uncover hazards and vulnerabilities that the individual HCO might not otherwise consider and (2) allows for sharing of best practices or other solutions. Examples of mitigation activities include the following:

[6] J. A. Barbera and A. G. Macintyre. *Jane's Mass Casualty Handbook: Hospital*. Surrey, UK: Jane's Information Group, Ltd., 2003.

- Designing and constructing HCOs to avoid or minimize potential hazards (e.g., build electrical systems above ground level in flood-prone areas)
- Confining internal hazards, such as hazardous materials, in safe and secure areas to prevent their release during an internal event (e.g., a fire)
- Developing redundancy in hospital operating systems to ensure backup capability during an emergency. Backup systems should be evaluated for their vulnerability to hazards, particularly those most likely to affect primary systems (e.g., backup generators should be located above ground level in flood prone areas)
- Protecting communication systems (both internal and external) and computer infrastructure from accidental or deliberate disruption
- Establishing programs for testing, inspection, and preventive maintenance of backup systems and facility safety features.

2.2.2 Preparedness

Preparedness activities are undertaken to build capacity and capability within an HCO so that it can meet potential patient and staff needs that arise after a hazard impact. Preparedness centers on having an effective EOP in place that:

- Describes a well-defined management structure for emergency response
- Assigns important roles and responsibilities to the HCO incident management team and general staff during response
- Provides mechanisms to facilitate interfacility cooperation and integration into the community response (e.g., development of standardized data collection and information sharing protocols)
- Describes processes for requesting and receiving mutual aid, or for providing support to other HCOs whose operational thresholds have been exceeded
- Establishes mechanisms to conduct and evaluate semi-annual emergency response exercises.

Regular meetings of the EMP committee should be conducted as part of preparedness activities, and there should be an annual evaluation (and revision, if necessary) of the EOP. In addition, preparedness includes all training and drills, to impart knowledge and skills, plus exercises that are performed to stress and evaluate the HCO EOP. These activities are best performed in conjunction with other HCOs (Tier 2) or the jurisdiction (Tier 3) to enhance their integration.

2.2.3 Response

Response actions address a specific hazard impact that has occurred (or an impending impact, such as a hurricane or tornado) and are guided by the HCO EOP. The primary goals of response actions are to:

- Prevent or limit the extent of a hazard impact on HCO staff, patients, and operations (e.g., proper isolation/quarantine measures)
- Maximize patient and population resistance to a hazard *after* exposure (e.g., administration of appropriate vaccination or medication prophylaxis)
- Promote healing of incident victims and the general population from a hazard impact (e.g., provision of definitive care, rehabilitation and mental health services).

While these response goals (i.e., control objectives[7]) should be universal to all HCOs during response, operational period objectives, strategies, and tactics to achieve these goals may vary. It is important to coordinate response strategies among HCOs (or at least clearly communicate preferred strategies to individual HCOs) through a collective response planning process (Tier 2).

2.2.4 Recovery

The activities of the recovery phase seek to return response personnel and the HCO to normal operations (or to a defined "new normal") as quickly as possible. Recovery efforts should include a thorough evaluation of how the response system performed under stress, making note of specific strengths, weaknesses, and strategies to improve the HCO's ability to respond to future emergencies and disasters. Other important recovery activities include the following:

- Accounting accurately for all costs incurred by the HCO as a result of a response, and applying for financial remuneration for those costs
- Attending to acute and long-term physical and mental health effects incurred by HCO staff during response (e.g., providing counseling services)
- Replacing or servicing equipment and supplies used during response
- Evaluating, cleaning, and/or repairing damage to the facility.

[7] "Control objectives" is the NIMS term for overall incident response goals and are not limited to any single operational period (thus distinguishing them from operational period objectives).

Recovery activities should be coordinated with other tiers. Moreover, it is critical that each HCO report to the designated jurisdictional (Tier 3) incident management authority when its recovery is complete and the facility has returned to normal operations.

2.3 HCO Emergency Operations Plan

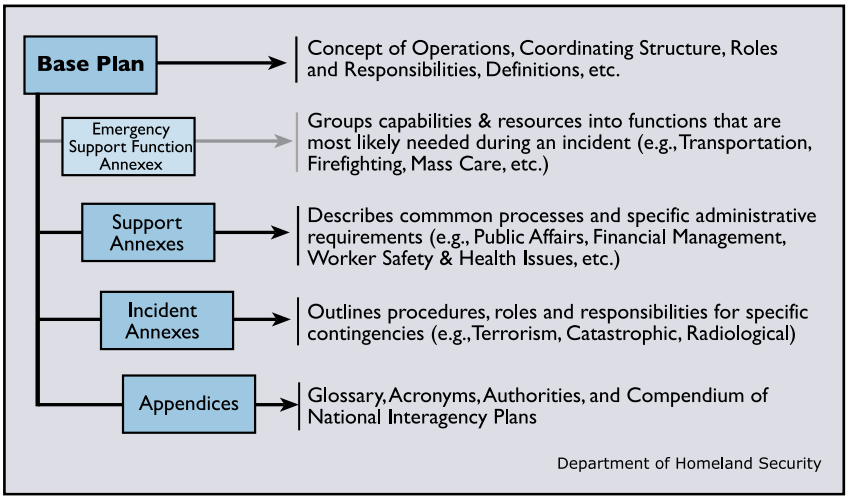
In the past, the HCO EOP was commonly (and inaccurately) referred to as the disaster plan. Fortunately, this has begun to change as the EOP evolves into a guide to address less overwhelming emergencies and hazard threats. For early response activities, the EOP uses operational checklists (or job action sheets) for designated functions. Later stages of response, and initial stages of recovery, should be addressed by a proactive management method that emphasizes documentation of response objectives, strategies, and specific tactics. Exhibit 2-3 highlights key components of the HCO EOP.

Exhibit 2-3. Key Components of the HCO EOP

- The management structure and *methodology* that will be used in an emergency, including the organization and operation of the internal HCO Incident Command Post (ICP). This should be easily identifiable to external coordinating agencies.
- General organizational descriptions of Operations, Planning, Logistics, and Administration/Finance Sections, which personnel perform them, and the processes/procedures to be used.
- Essential activities to be performed during each stage of emergency response. These activities should be coordinated with other HCOs (through Tier 2) and with jurisdictional incident management (Tier 3) to maximize MSCC across the system.
- Methods for adequately processing and disseminating information during an emergency, including names and contact information for external liaisons and contacts at other HCOs and the jurisdictional level (Tier 3).
- Processes to promote continuity of HCO operations, including patient care, business continuity, and pre-identified sources for external support (e.g., mutual aid partner facilities).
- Guidance on how to develop and release public messages during emergencies, including coordination with the jurisdiction (Tier 3) public information function.
- Guidance for very unusual hazards or for special circumstances, such as hospital evacuation or "shelter in place." Typically addressed in annexes to the EOP, this guidance should use the same processes established for other emergencies.

The structure of the EOP in emergency management is becoming more standardized, and HCOs should consider conforming to this structured approach. Figure 2-1 provides a synopsis of the EOP structure demonstrated in the National Response Plan (NRP)[8] and Exhibit 2-4 provides an EOP structure and format specifically for HCOs.

Figure 2-1. Organization of the National Response Plan



[8]U.S. Department of Homeland Security, National Response Plan, August 2004, Available at: http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml.

Exhibit 2-4. Example of a Healthcare System EOP Format[9]

The material developed for the EOP should be formatted for ease of use during response and recovery yet must remain comprehensive. This EOP format is consistent with the common format of other disciplines and is consistent with the NRP format:

Introduction (may be considered part of the Base Plan)

- Title page
- List of changes (with dates) to the EOP
- Table of contents
- Executive summary: Provides an awareness level of proficency with the EOP.

EOP Base Plan

Provides an understanding of how the organization responds and how it interfaces with the outside environment during response. Essential sections include:

- Purpose/Mission: goal and objectives
- Scope
- Situation and assumptions
- Concept of Operations (including a System Description)

EOP Funtional Annexes

Specific more detailed description of the response guidance for each functional area, including;

- Each functional annex provides the general response objective for the functional area, the response structure, activation and mobilization procedures specific to that function, and its concept of operations
- Position descriptions and qualifications, operational checklists (job action sheets) for positions
- Forms (including ICS forms) and other jobs aids to accomplish the tasks.

EOP Support Annexes

Specific processes and procedures that apply to all or most of the response functions and support response and recovery, including:

- Common administrative requirements

[9]*Emergency Management Principles and Practices for Healthcare Systems:* Unit 1, Available at: http://va.gov/emshg/. Readers are encouraged to access this online for additional details.

- Continuity of operations process and procedures
- Occupant emergency procedures
- Worker safety and health procedures
- Media policy and procedures
- Resource ordering procedures
- Response and recovery financial management procedures
- Emergency credentialing and privileging of volunteers and mutual aid personnel
- Others

Incident Annexes

Contingency considerations for specific hazards, sites, and situation (roles, responsibilities, procedures), to include:

- Pre-plans for common hazards:
  - Weather emergencies
  - Hazardous materials
  - Infectious disease outbreak
  - Explosive threat
  - Security situations
  - Infant abduction
  - Care for the High Level Protectee
  - Civil disturbance
  - Others as identified through HVA.

Appendices

Additional materials that are revelant to guidance for emergency response and recovery, including:

- Glossary
- Acronyms
- Authorities (if not incorporated into the Introduction)
- Compendium of pertinent local and regional response plans and procedures
- Resource lists and content information

It is important to recognize that many private physician offices, neighborhood clinics, and other "smaller" Tier 1 assets do not have the management infrastructure or personnel necessary to establish complex processes for incident preparedness and response. However, these entities may find themselves, during a major incident, compelled to participate in the community response beyond simply referring patients to a hospital or closing down their clinical operations. This is because:

- Victims often seek medical care in settings they are familiar with, such as a personal physician's office
- When medical surge demands severely challenge hospitals, patients may seek care at alternative facilities
- Some victims' treatment requirements, or persons with medical special needs, may be adequately managed in these smaller settings
- Certain events, such as a biological agent release, may be prolonged in duration and generate patients that can be safely evaluated in these settings, thus relieving some of the burden on larger HCOs.

The approach to emergency preparedness and response for these Tier 1 assets can be relatively simple. They may elect to integrate with each other and with the community response in one of two ways:

- Associate with a larger Tier 1 organization (e.g., hospital, integrated healthcare system, large outpatient facility) where they have privileges, or with a local professional medical society. The *organizing body* must have the ability to manage ongoing EMP activities and, during response, to perform incident management processes, such as incident action planning and disseminating information to its participants.
- Participate in at least the information processing function of the ICS. For this to occur, the smaller Tier 1 asset must know where to obtain authoritative information and where to report information. The exchange of incident-related informaton should include the following:

- Where to obtain information on personal protection and other incident-specific safety measures for practitioners, their staff, and patients.
- Where to obtain reliable incident information that allows anticipation of medical needs, such as unusual patient treatment requirements.
- Where to obtain guidance on the specific medical evaluation of incident cases, such as the availability of confirmatory lab tests and the test limitations.
- Where to obtain pertinent information on populations at risk (e.g., for a biological event, understanding the community-wide approach to risk stratification for potentially exposed patients).
- Where to obtain information on whether public health emergency powers have been invoked, allowing release of private patient information, and other deviations from standard medical practice.
- Where to send reports and what information to transmit on patients who have been evaluated and/or treated at the practitioner's location. This helps jurisdictional authorities (Tier 3) determine the size and scope of the event and monitor incident parameters.

2.4 Integration With Other Tiers

The comprehensive EMP should establish processes that enable the HCO to coordinate and integrate with other response entities. This helps the HCO adequately provide MSCC and becomes critically important when an asset is severely challenged and must seek external assistance.

Exhibit 2-5. Effective Interface Between Tier 1 and Other Tiers

Why is it important for individual health and medical assets to have an effective interface with other tiers?

Consider the scenario of a bombing incident with large numbers of casualties. Patients may self-refer or be transported by official jurisdictional assets to multiple treatment locations. This occurred after the Pentagon attack on 9/11, as patients were transported to hospitals around the region and others self-referred to hospitals and at least two clinics (one of which was in the Pentagon). Having individual HCOs effectively integrated with other tiers will facilitate:

- Patient tracking: location of individual patients within a community's medical system.
- Tracking the status of healthcare assets to determine:
  - HCOs that received large numbers of casualties that require outside support and diversion of additional patients
  - Individual assets that may be available to assist other HCOs
  - HCOs that can accept additional patients.
- Notification of response actions that could affect an individual asset's operations, such as street closures that limit a facility's ability to get personnel to work.

The two major functional areas that facilitate cooperation among HCOs and integration of individual HCOs with non-medical responders at the jurisdiction (Tier 3) level are the Command element and Planning Section.

2.4.1 Incident Command

There must be a clearly defined and tested command structure in place within an HCO in order for the facility to coordinate externally with other response entities. As an incident unfolds and details begin to emerge, the HCO incident management team should quickly transition from reactive to proactive management; this is best accomplished by establishing HCO control and operational period objectives for the response. These objectives should be defined and documented through *incident planning*—a process in which the incident management team outlines a response strategy and specific actions for the HCO. The result is often a formal IAP for the facility.[10]

[10]A more detailed description of incident action plans, including an example of a hospital IAP, is provided in Appendix C.

The IAP should be shared with HCO staff so that they understand the "larger picture" of what is happening and how their facility is responding. The IAP should also be shared *externally* with other local HCOs and with jurisdictional authorities (Tier 3) to enhance their understanding of the event, the response parameters, and the status of the HCO. Because some facilities may be reluctant to share their IAPs due to concerns about proprietary information, critical components (e.g., updated situation reports, resource status reports, safety and communication plans) can be isolated from internal, more sensitive material. The latter may be designated as an internal support plan and not distributed externally.

Within the Command element of ICS are multiple subfunctions that help integrate individual HCOs with other responders:

- ***Safety Officer:*** Recommendations for staff safety during emergency response should be standardized, if possible, across the healthcare coalition (Tier 2) and the jurisdiction (Tier 3). They should also carry the affirmation of the jurisdiction's public health authority. This includes traditional workplace safety (e.g., everyday precautions), preventive medical/health safety (e.g., vaccination prophylaxis), and security safety. Guidance should allow for variations among HCOs based on incident circumstances; however, any differences among HCOs should be identified and explained to patients and staff.
- ***Senior Liaison Officer:*** The senior liaison officer shares information and knowledge with other response leaders outside the HCO to determine the best available strategy, set priorities, and identify major actions for the HCO incident management team. Ideally, this is accomplished through Tier 2 activities (e.g., conference calls or disseminated written materials) where information is shared among all HCOs. The liaison officer should participate in HCO management decisions to ensure that objectives from outside the HCO are considered. This position should be distinguished from operational-level liaisons that focus on tactical issues (e.g., the liaison between the emergency department and EMS units).
- ***Senior Advisor:*** The senior advisor provides expert input to the HCO incident management team on medical issues that are directly relevant to *strategic* decision-making (e.g., provides knowledge about the stages of treatment for burn casualties so management staff may anticipate what resources will be needed at each stage).

This helps the incident management team determine support needs that might have to be requested through mutual aid. The role of the senior advisor differs from that of the technical specialist, who advises the general staff on tactical issues related to patient care (e.g., specific medical and nursing procedures, medications, and other interventions).

- ***Public Information Officer:*** This position promotes an accurate and consistent message across tiers by coordinating any information transmitted to the public and the media with the message developed at the jurisdiction level (Tier 3). Information released by the HCO should focus specifically on the situation at the HCO and its operations, training, and preparedness. It should not conflict with Tier 3 public messages, nor should it speculate on strategy beyond the HCO.

2.4.2 Planning Section

The Planning Section plays a critical role because of its involvement in processing information and developing IAPs for the HCO. When shared with other local HCOs (through Tier 2) and jurisdictional (Tier 3) authorities, the HCO IAP provides strategic information to help coordinate response efforts, and may give advance warning if mutual aid support will be necessary. For example, a strategy outlined in an HCO IAP to vaccinate staff enables other organizations to decide whether they want to proceed similarly. Even if uniform measures are not adopted across a jurisdiction, this knowledge allows HCOs to reassure their staff and the public as to why they elected a particular course of action. In addition, HCOs use long-range planning to predict extended resource needs (e.g., supplies, personnel), and contingency planning to identify alternative response actions should incident parameters change. Both long-range and contingency planning will necessarily involve close integration with organizations external to the HCO.

Information from other local health and medical assets will be critical to allow optimal coordination and operation of internal HCO divisions. By operating a well-established information management function at baseline, HCOs can receive the earliest reports of an event and immediately begin processing and distributing information within the facility and externally. Similarly, data generated by an HCO (e.g., number of emergency department visits) may provide first warning of an impending crisis and can be quickly sent to other HCOs, jurisdictional emergency managers, and public health officials to establish incident parameters (Exhibit 2-6).

Exhibit 2-6. Importance of Managing HCO Information

Information on the numbers of patients seeking care in the emergency department for potential exposure to anthrax can be important to the HCO for both internal and external reasons. HCO managers could use this information to determine if objectives are being accomplished, to anticipate staffing needs for the next operational period, and to determine the need for external assistance. The data might also be analyzed for operational relevance (e.g., did patient concerns about potential exposure arise from a lack of information from jurisdictional incident management?). Similarly, it is important to transmit this information (through the HCO's senior liaison) to jurisdictional (Tier 3) incident management. Both the absolute numbers and the analysis that patients presented because of a lack of jurisdiction information would be important for Tier 3 in analyzing the effectiveness of their strategy and tactics.

An important part of information management is deciding who does *not* need specific information. In this example, regular inpatient units may not require detailed information about emergency department operations (though this information would be available to them, as requested, through an adequately disseminated HCO IAP). Instead, a brief status report indicating the number of patients evaluated and discharged in the emergency department may give inpatient staff an adequate sense of what is occurring without providing overly detailed information.

Provided below are several mechanisms to promote HCO integration with other tiers through an adequate information management function:

- Establish regular reporting intervals that synchronize with the operational periods of Tier 2 (preferable) or Tier 3.
- Determine early in response *where, how, and in what format* to transmit situation reports, resource status updates, IAPs, and other information for further aggregation and analysis.
- Regularly provide situation reports and resource status updates for the HCO to appropriate external response entities. This can be easily accomplished by sharing the HCO IAP along with a list of incident-generated patients.

- Obtain from public health authorities recommendations on prophylaxis or evaluation of potentially exposed individuals, or other pertinent information (e.g., global situation status reports from Tier 3).
- Ensure that reliable and redundant systems are in place to accurately track, account for, and report on incident victims. Beyond just tracking patients in the HCO, the system must also reliably determine that a missing person is definitely *not* under the HCO's care.
- Maintain an information function that is always operational, even at a minimum baseline during periods of non-response. This allows for a rapid, smoother ramp-up in operations during the initial phases of an event. It also enables information that is important for EMP activities to be relayed during times of non-response (e.g., jurisdictional exercise information, upcoming event announcements).

2.5 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident operations, as this is the focus of the MSCC Management System.

Background and Incident Description

- Green Hospital is one of several HCOs located in a jurisdiction. It is a moderate-size community hospital and level-2 trauma center.
- Highly refined anthrax has been mailed to City Hall in a package with an air-powered dispersal device that activates as the package is opened in a clerk's office.
- 911 is called. Fire/HAZMAT arrives promptly and observes that the powder is "very fine." Immediate field tests (recognized to have high false-positive rates) performed by HAZMAT are positive for anthrax. HAZMAT/EMS contacts the City Department of Health (DoH) for assistance. More definitive laboratory studies are pending.
- Many City Hall workers were in the immediate vicinity of the opened package. Because of the building's ventilation system, others in nearby sections of the building are considered exposed. Several potentially exposed people have left the scene.

Incident recognition for Green Hospital occurs when the HAZMAT chief contacts all jurisdictional hospitals through a common emergency commun-ications channel. Hospitals are warned to decontaminate all patients suspected of exposure to the powder. At about the same time, hospital staff receives early media reports on the discovery of a powder at City Hall. A subsequent broadcast from DoH (Tier 3) to HCOs announces a teleconference that has been scheduled to provide local hospitals with more details about the incident.

Notification/activation begins when administrators at Green Hospital rapidly contact the hospital's Director of Safety (Chair of the EMP Committee) and the Director of the Emergency Department (ED). They agree that a partial activation of Green Hospital's EOP is warranted. This provides enhanced systems to integrate Green Hospital with other response agencies, focuses attention on perimeter management, and increases support to the ED, while minimizing impact on areas such as outpatient surgery. A notice of partial EOP activation is disseminated to hospital staff and internal departments. The hospital also notifies its coalition partners

(Tier 2) and DoH (Tier 3) of its partial EOP activation and provides each with a current status report and important initial contact names and methods.

Mobilization activities at Green Hospital include setting up its decontamination capability, implementing and staffing the hospital's Incident Command Post (ICP), and directing support to the ED. Important points of contact at the ICP are provided to Tier 2 and Tier 3 partners.

Incident operations are initiated as potentially exposed patients arrive at Green Hospital. A teleconference is conducted between jurisdictional hospitals and DoH so that known incident information can be provided to all hospitals simultaneously:

- Responders are treating the threat as very real and decontaminating all victims who remain at the scene.
- Investigation is under way to determine if human exposures occurred at "upstream" postal facilities.
- HAZMAT and DoH provide tentative case definitions for anthrax exposure (confirmed, probable, unlikely).
- Initial evaluation and treatment information is disseminated, which includes:
  - Recommendation to decontaminate patients who meet the case definitions for probable and confirmed anthrax exposure. The hospital's decontamination team is given the case definition and risk profiling information, which it uses to determine who needs to undergo decontamination;
  - Recommendation for Personal Protective Equipment (PPE) for staff receiving and evaluating patients prior to decontamination;
  - Initial description of patient demographics that should be considered in categorizing patients for exposure; and
  - Recommendation for antibiotic prophylaxis and initial treatment of victims. A clinical team from Green Hospital (composed of an emergency physician, infectious disease specialist, infection control nurse) uses this information to develop an initial patient evaluation protocol and prophylactic medication regimen for patients at Green Hospital.

During the initial teleconference, DoH establishes the methods hospitals should use to report cases (all types), including how to format reports and where to send them. A request is made for an initial status report from each hospital to be submitted within two hours. The report should contain a situation update specifying the number of patients that meet the case definition for exposure, and a resource update noting operational problems encountered by the hospital.

Green Hospital's incident management team initiates a proactive response planning process and develops a formal IAP. An operational period of 12 hours is established in conjunction with the operational period being used by the jurisdiction's Incident Management (Tier 3). Green Hospital's ICS conducts management and planning meetings, and the Planning Section works to document the hospital's IAP. In addition, the Planning Section:

- Submits the hospital's IAP to the Tier 2 coalition communications center ("clearinghouse" function). Action plans from each hospital are shared with each other through this route, and submitted to jurisdiction incident management (Tier 3) through DoH.
- Tracks incident-related cases within Green Hospital, with information formatted for situation updates and for use by hospital management personnel to assess the hospital's response effectiveness in achieving its incident objectives.
- Provides information to Green Hospital's public information officer (PIO) to use in developing an initial statement for the media. The statement focuses on Green Hospital's response actions. The hospital PIO coordinates the public statements with the jurisdiction's PIO.
- Manages strategic information provided by the hospital's liaison to the Tier 2 coalition and to jurisdiction incident management (Tier 3).
- Disseminates appropriate information internally, including the hospital's current IAP, which is sent to department managers before the start of each operational period.

Staff members that developed the patient evaluation and treatment protocols represent Green Hospital on a subsequent teleconference with representatives from other HCOs and DoH. The protocols of each HCO are

compared, and a standardized protocol is established for the jurisdiction. In this way, the response at Green Hospital evolves in coordination with the other HCOs (Tier 2) and jurisdictional authorities (Tier 3). Green Hospital incorporates the standardized evaluation and treatment protocol into its updated IAP. During each subsequent operational period, Green Hospital adjusts its IAP to reflect new event parameters, such as:

- Revised or new incident objectives and strategies
- Changes in how the "at-risk" population is defined, as well as other changes to the evaluation and treatment protocols
- New information about the anthrax agent if it is altered from its usual characteristics (e.g., resistance to a particular antibiotic).

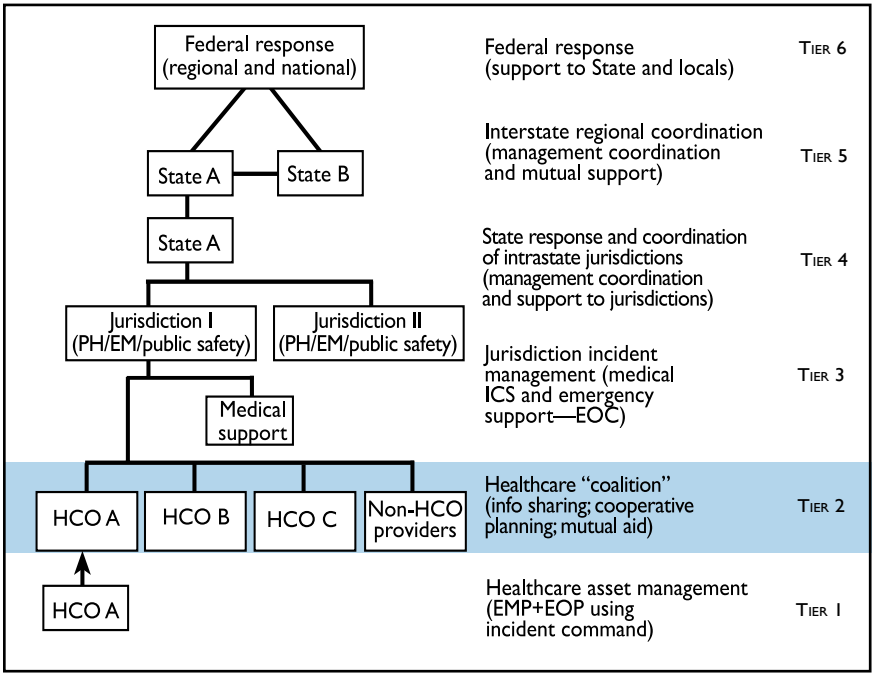
NOTES

NOTES

Chapter 3: Management of the Healthcare Coalition (Tier 2)

Contents

Management of the Healthcare Coalition (Tier 2)



The healthcare coalition (Tier 2) is composed of healthcare organizations (HCOs) and other assets described in Tier 1 that form a single functional entity to maximize MSCC in a defined geographic area. It coordinates the mitigation, preparedness, response, and recovery actions of medical and healthcare providers, facilitates mutual aid support, and serves as a unified platform for medical input to jurisdictional authorities (Tier 3).

KEY POINTS OF THE CHAPTER

In a mass casualty and/or mass effect incident, HCOs[1] may lack the necessary resources and/or information to individually provide adequate MSCC. The healthcare coalition (Tier 2) attempts to maximize MSCC by coordinating mitigation, preparedness, response, and recovery activities among *all HCOs* in a jurisdiction. This allows existing medical and public health resources to be optimally leveraged, and it promotes interfacility cooperation and support. Tier 2 also promotes coordination with jurisdictional authorities (Tier 3) by providing a unified platform for medical and public health asset integration into the community response.

The healthcare coalition (Tier 2) emphasizes *coordination and cooperative planning* rather than a truly "unified command" of all public and private medical and health assets. This is because health and medical assets retain their individual management autonomy during incident response. However, they participate in information sharing and incident planning to promote consistent management strategies. The management organization and decision process of Tier 2, therefore, is less structured than in Tiers 1 and 3 since decision authority resides primarily at the level of each HCO. Rather than "commanding" HCOs, Tier 2 brings them together to collaborate on strategic issues and to coordinate incident planning, response, and recovery activities. Tier 2 is essentially a NIMS-consistent Multiagency Coordination System (MACS), with the coalition providing the Multiagency Coordination Center (MACC) functions, and intermittent conferencing of HCO decision-makers providing the Multiagency Coordination Group (MAC Group) component. Ideally, these efforts are closely integrated with the jurisdiction's (Tier 3) preparedness planning and response activities.

The function in Tier 2 that collects, processes, and disseminates data and information is referred to as a "clearinghouse function." It ensures that all HCOs have the information they need to adequately prepare for and respond to major events. This information exchange builds consistency in response activities and in the public message. It also allows the Tier

[1]In this document, an HCO is any hospital, integrated healthcare system, private physician office, clinic, community health center, nursing home or other skilled nursing facility, or other resource identified in Tier 1 (see page 2-2) that may provide point-of-service medical care.

2 coalition to effectively integrate with non-medical responders at the jurisdiction level (Tier 3) by providing timely and accurate "snapshots," or composite situation updates of local HCO operations.

An integral component of the coalition response is medical mutual aid—the redistribution of personnel, facilities, equipment, or supplies to HCOs in need during times of crisis. Mutual aid provides surge capacity and capability that is immediately operational, reliable, and cost-effective. The Tier 2 coalition provides a mechanism to formally establish processes for requesting and receiving mutual aid during preparedness planning. It also allows such issues as staff credentialing, liability, reimbursement, and transfer of patient responsibility to be addressed in preparedness planning, thus ensuring a rapid distribution of aid when it is needed.

3.1 The Role of the Healthcare Coalition in MSCC

Research has shown that most individual HCOs possess limited surge supplies, personnel, and equipment, and that vendors or anticipated "back-up systems" for these critical assets are often shared among local and regional HCOs.[2, 3] This "double counting" of resources diminishes the ability to meet individually projected surge demands across multiple institutions during a medical emergency.[4] To address this, the healthcare coalition (Tier 2) integrates *all medical and health assets* in a jurisdiction to coordinate their mitigation, preparedness, response, and recovery activities. In this way, HCOs work together to maximize MSCC rather than compete against one another for limited resources.

Much of the benefit gained from the healthcare coalition is evident in participant HCOs' Emergency Management Programs (EMPs) well before a major event occurs. Joint planning and preparedness efforts with geographically related facilities are possible, even though the HCOs may normally be business competitors. Areas of mutual benefit include the following:

- Distributing the mitigation and preparedness workload among facilities, since many of the solutions found during preparedness planning may be applicable to multiple HCOs in a jurisdiction
- Establishing familiarity and trust among HCOs that promote cohesive response actions during an emergency
- Fulfilling regulatory and accreditation requirements for community emergency planning and for establishing and maintaining management systems that integrate into the jurisdiction (Tier 3) response (as required by the Centers for Medicare and Medicaid Services, State survey agencies, the Joint Commission on Accreditation of Healthcare Organizations, and other accreditation organizations)
- Promoting close integration with jurisdictional (Tier 3) authorities for mitigation and preparedness planning, and for pre-planning of scheduled unusual events, such as mass gatherings (e.g., fireworks display) or high-security events (e.g., political demonstrations).

[2] Hospital Preparedness: Most Urban Hospitals Have Emergency Plans but Lack Certain Capacities for Bioterrorism Response. GAO-03-924, August 2003.

[3] Barbera, JA, Macintyre, AG, and DeAtley CA. "Ambulances to Nowhere: America's Critical Shortfall in Medical Preparedness for Catastrophic Terrorism." Executive Session on Domestic Preparedness, John F. Kennedy School of Government, Harvard University ESDP-2001-07 (October 2001). Updated and reprinted in Countering Terrorism: Dimensions of Preparedness, MIT Press, September 2003. Available at: http://mitpress.mit.edu

[4] The issue of "double counting" also highlights the importance of including members of the HCO supply chain (pharmaceutical companies, equipment vendors, etc.) in preparedness planning.

During incident response, coalition participants benefit through cooperative planning, information sharing, and management coordination. As surge demands challenge individual HCOs, the coalition facilitates mutual aid assistance through arrangements with nearby HCOs. Mutual aid is a timely, cost-effective, and reliable method to obtain added surge capacity and capability (via equipment, facilities, supplies, and personnel) that is immediately operational. It distributes health and medical assets to areas of greatest need, thereby enhancing overall jurisdictional MSCC.

3.2 The Coalition Emergency Management Program

The backbone of the healthcare coalition (Tier 2) is a comprehensive EMP that *formally* defines the mitigation, preparedness, response, and recovery efforts of participating HCOs. The preparedness and response architecture of the coalition EMP differs significantly from that found in individual HCOs (Tier 1) and at the jurisdiction level (Tier 3). For example, the Tier 2 leadership during an emergency or disaster response does not have an incident commander's decision authority for the coalition. Instead, the leadership acts to ensure optimal coordination and information sharing among participants. In this fashion, the coalition (Tier 2) functions like a MACS. If leadership decisions are necessary, the MAC Group component of Tier 2 should be activated.

Several important considerations for the coalition EMP include:

- Establish an emergency management committee that includes representatives of each participating facility. These individuals should be knowledgeable in their respective organization's EMP and Emergency Operations Plan (EOP).
- Address relevant issues related to mitigation, preparedness, response, and recovery. An example would be clearly defining the processes for how the Tier 2 leadership (the Tier 2 MAC Group) will be designated and activated during an incident response, or identifying how major decisions will be made on issues that affect all coalition participants. The MACC component must also be clearly delineated, for both the "clearinghouse" information function, as well as mutual aid and other important coordination tasks. This involves specifying during preparedness planning which personnel will perform these functions, the location where coordination will occur, the procedures for receiving, processing, and disseminating information, and the processes by which mutual aid will occur.

- Develop formal processes to administer the coalition EMP and to conduct emergency management committee meetings:
  - The committee should meet regularly (at least once a month during startup and at times of high threat, or immediately after a response to receive input from all participants).
  - An agenda should be distributed to participants before all meetings, and minutes should be recorded for future reference.
  - An official vote should be taken to decide issues that affect all members.
  - Meeting locations may be rotated among participating HCOs to promote familiarity with each other's response plans and facilities, to encourage sharing of best practices, and to distribute costs.
- Involve jurisdictional (Tier 3) authorities (e.g., EMS, public safety, emergency management, public health) in Tier 2 proceedings to ensure a close partnership between Tiers 2 and 3. Similarly, a Tier 2 liaison should participate in jurisdictional preparedness meetings and represent the Tier 2 coalition in the jurisdiction's EOC and (ideally) within the Tier 3 incident management team (if one exists separate from the EOC).

The coalition EMP should be sponsored by an established entity that can provide the administrative infrastructure (clerical support, meeting space, etc.) for the EMP. This "sponsor" must promote equal participation among member HCOs and should not convey a competitive business advantage to any coalition member. Potential sponsors may include local hospital associations, local or regional EMS councils, and Local Emergency Planning Committees (LEPCs).[5]

The Tier 2 coalition may include HCOs from beyond a single jurisdiction. This may be desirable especially in rural areas, where health and medical assets are scattered, or in complex metropolitan areas with overlapping hospital catchment areas. In such cases, the Tier 2 coalition should closely coordinate its preparedness planning with each Tier 3 jurisdiction covered by the coalition's resources. During response, the jurisdiction that is primarily responsible for the medical incident response (i.e., for the victims generated within its boundaries) would be the primary support to the Tier 2 coalition, ideally in close coordination with other involved jurisdictions.

[5] LEPCs are mandated by the Superfund Amendments and Reauthorization Act (SARA Title III) for communities with risk of hazardous material incidents from local industry.

It is important for the coalition to retain the responsibility and authority for the Tier 2 response infrastructure. This helps to maintain the private sector perspective and ensures that the coalition has priority access to resources (e.g., radio, telecommunications) during response (Exhibit 3-1).

Exhibit 3-1. HCO Control of Tier 2 Response Infrastructure

Early in the development of the Washington, DC Hospital Association-based Hospital Mutual Aid System (HMAS), the District Government offered the use of its 800-megahertz radio system and the Mayor's conference-call resource to hospitals for use in times of crisis. HMAS participants declined, recognizing the need to establish communications to which HCOs always had primary access, regardless of the evolving circumstances. The HMAS low-tech radio system worked exceptionally well on 9/11, when other radios were committed or overwhelmed. The privately established conference-call service also worked well during subsequent weeks of the 9/11 recovery effort and the anthrax crisis.[6]

For reasons explained earlier (section 1.3.1), preparedness committees, processes, and procedures should be distinguished from those used during response. For example, the Tier 2 emergency management/preparedness committee would not be the appropriate structure for managing Tier 2 during an actual event.

3.3 The Coalition Emergency Operations Plan

Similar to individual HCOs, the coalition (Tier 2) has an EOP that guides actions during response. However, the Tier 2 EOP emphasizes *coordination* among coalition members (via the MACC) rather than *direct management* of individual assets. This reflects the fact that HCOs retain their management autonomy during a response, while they collaborate with other medical assets to strengthen overall MSCC in the jurisdiction or region. In addition, the EOP should guide members on how to incorporate Tier 2 tenets into their respective HCO EOP. For example, the coalition EOP might provide instructions on such issues as how to request and integrate mutual aid assets into an HCO's incident operations, and what designated communication methods to use between HCOs during response.

[6] Gursky, E, Inglesby, T V, and O'Toole, T. "Anthrax 2001: Observations on the Medical and Public Health Response." Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, Volume 1, Number 2, 2003; 97-110.

3.3.1 Incident Management Organization

The management organization of Tier 2 is less structured when compared with individual HCOs (Tier 1) and the jurisdiction (Tier 3) because decision authority is based primarily at the management level of each coalition member. For example, an HCO may grant or deny a request for mutual aid based on perceived ability to adequately maintain its own operations. Decisions that affect *all coalition members* are made by consensus through moderated meetings or teleconferences. Major strategic or policy-level decisions necessary during incident response may be relegated to meetings or teleconferences between the senior executives of the participating coalition HCOs. This forum may be designated as a MAC Group function to distinguish it from the MACC coordination function accomplished by the other Tier 2 activities. An example of a MACC activity might be the development of a consistent strategy for patient evaluation in all Tier 2 HCOs (e.g., risk/prophylaxis stratification of potentially exposed victims after a biological incident). An example of the MAC Group function may be a decision by all HCOs to buy an expensive technology necessary to address a newly recognized illness in the community. Despite the diffuse decision authority at Tier 2, each HCO should recognize the importance of its response actions and public message being consistent with those of other HCOs in the coalition.

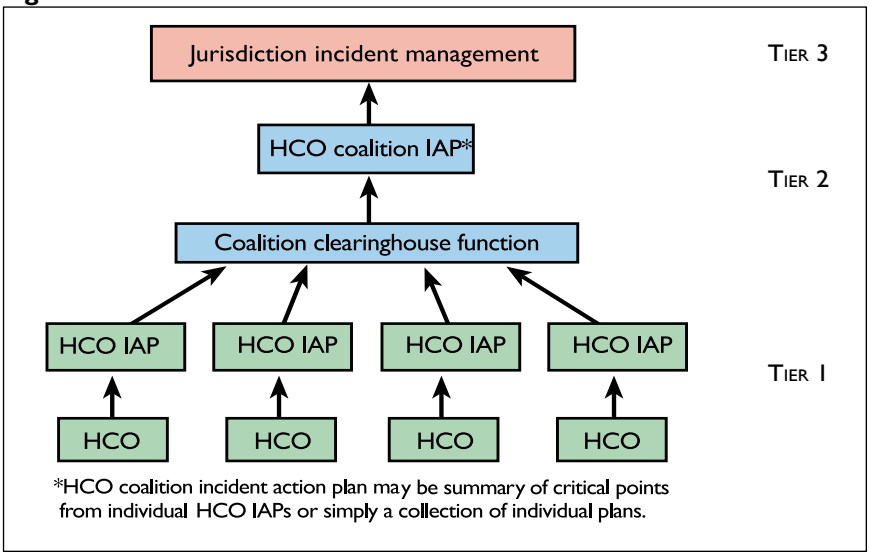
3.3.2 Proactive Incident Planning

Depending on incident circumstances, the Tier 2 coalition may elect to write a comprehensive incident action plan (IAP) that summarizes each participant's HCO IAP (Figure 3-1).[7] This is most likely to occur when the response will be drawn out over an extended period of time (days or weeks). In other cases, the coalition IAP may simply aggregate action plans from individual HCOs into a pre-designated format. At the Tier 2 level, this is typically accomplished through a clearinghouse function that receives data from HCOs, collates them, and returns the aggregate data to HCOs.

The Tier 2 coalition IAP developed for each operational period requires approval by each coalition member. This type of unifying document, which describes common response goals and strategies, the situation at individual HCOs, the resources available, and other parameters, could facilitate inte-

[7]Additional information on the key components of an incident action plan is provided in Appendix C.

Figure 3-1. Tier 2 Coalition Action Plan



gration with incident management at the jurisdictional level (Tier 3).

3.3.3 Information Sharing

The Tier 2 coalition clearinghouse function ensures that HCOs have the information they need at a level of detail that enables them to provide adequate MSCC in situations where jurisdictional incident management (Tier 3) may not yet be involved. Its primary function is to gather, collate, and disseminate aggregate information; it is *not* intended to analyze or filter information to make independent jurisdiction-level decisions (which is the purview of Tier 3).

The Tier 2 coalition must have adequate systems in place to collect data from HCOs and rapidly return aggregated information to coalition members. Communication procedures should be as simple as possible. For example, it may be beneficial to develop spreadsheets that allow data to be electronically collated and the aggregate data quickly returned to the HCOs. To promote integration with jurisdictional incident management (Tier 3), the clearinghouse function must have a mechanism available to simultaneously provide data/information to Tier 3 for processing and further analysis. This "real time" flow of information enables HCOs to rapidly

assist each other during response and to identify common needs and issues for presentation to jurisdiction support assets.

Some important preparedness phase considerations include:

- Select a site to support the Tier 2 information function that has 24-hour operations and the requisite support equipment (e.g., computers, radios, facsimile). Options include a hospital-based communications center for medical transport services, a private EMS service, or other entity.
- Designate personnel to process and manage incident-related information so that the capability is available 24/7. Examples could include personnel from the organizing body of the coalition or representatives designated on a rotating basis from individual HCOs.
- Pre-identify the type of information that might be important to collect and share across the coalition. Examples could include HCO action plans, initial and updated bed counts, patient volumes, and status of personnel, supplies, and equipment.
- Establish preferred methods of communication, such as radio, telephone, Internet, and facsimile.

3.3.4 Medical Mutual Aid

Mutual aid is assistance between HCOs through the provision of facilities, equipment, personnel, or supplies when individual resources cannot meet the surge demands generated by a specific incident. Exhibit 3-2 provides an operational description of medical mutual aid.

Exhibit 3-2. Mutual Aid Memorandum of Understanding: Operational Description

The term *mutual aid* refers to the establishment of a formalized compact between response entities from neighboring jurisdictions. Historically, this agreement allowed for the provision of emergency services, on a reciprocal basis, when individual resources were inadequate to deal with a specific incident. For example, the Emergency Medical Services System Act passed by Congress in 1973 identified mutual aid as one of fifteen essential components in the formation of EMS systems in the United States. This "helping hand" concept has become so incorporated into the fire service, EMS and law enforcement communities that failure to implement and update such agreements can constitute a violation of State regulations.

The HCO mutual aid memorandum of understanding (MOU) is commonly a *voluntary commitment* (not a legal agreement) by each participating HCO to share information and provide available assistance in a major emergency or disaster. The MOU describes a systematized approach to HCO response for disaster events, whether external or internal to an institution(s). It addresses the exchange of medical personnel, supplies, pharmaceuticals, and equipment, and the evacuation or admission of patients to or from any member facility in the event of a disaster. *The mutual aid system is not a replacement for any individual hospital's emergency preparedness plan; rather, it is meant as a supplement that will augment an institution's capabilities*. The MOU assumes that the HCO has implemented its own EOP prior to activating the mutual aid system, and that the adequacy of the affected organization's response has been exceeded. Any event requiring activation of the mutual aid system is expected to be of a magnitude that it also involves municipal emergency services and the jurisdiction's department of public health.

The Tier 2 coalition should identify mutual aid possibilities and formally establish mutual aid processes for a jurisdiction or region during preparedness planning.[8] Important provisions in this arrangement include:

- Donor HCOs should send only credentialed/privileged staff in response to a request for assistance; the receiving HCO essentially accepts the credentialing process of the donor HCO.

[8] In most cases, HCOs will first go through their normal supply chain to address surge demands. If this is not sufficient, mutual aid is a timely and cost-effective way to provide MSCC.

- Donor HCOs should pay staff members who volunteer to assist other facilities; the requesting HCO then reimburses this cost within a specified period of time.
- Liability coverage is carried by the donor HCO, but any expenses associated with the liability coverage are guaranteed by the receiving HCO.
- Requesting HCOs agree to rehabilitate equipment before it is returned, to replace donated supplies, and to reimburse all associated costs.
- Requesting HCOs designate staff to receive, brief, assign, and supervise donated healthcare personnel.
- When patients must be moved between facilities, the HCO requesting assistance is responsible for arranging transport (including transmitting the patient's chart and other information):
  - The transfer of responsibility for a patient occurs once the patient reaches the new facility.
  - The accepting HCO has full authority to assign one of its physicians as the primary medical provider for the patient, but grants temporary courtesy staff privileges to the patient's usual physician.
- Additional issues are addressed in the American Hospital Association's template, Model Hospital Memorandum of Understanding (available at http://www.aha.org/aha/content/2002/pdf/ModelHospitalMou.pdf).

Once the mutual aid process is established and documented, coalition members should be educated and trained on how to request and/or receive support. This includes knowing the proper procedures to follow, which personnel should make a request, whom to notify, and how to receive and financially account for donated resources—the latter being important for reimbursement after response. A short briefing should be prepared for staff members who volunteer to deploy to other facilities.

3.4 INTEGRATION WITH OTHER TIERS

An important function of the Tier 2 coalition is to integrate community medical assets with non-medical response organizations in the jurisdiction. This is accomplished through a Tier 2 *liaison function*. Having one liaison to represent the collective interests of HCOs (Tier 2) at the jurisdiction (Tier 3) level enables non-medical response assets to more easily interface with and understand the concerns of the healthcare community. If the Tier 2 coalition covers multiple local jurisdictions, a Tier 2 liaison should be assigned to each Tier 3 incident command post or EOC (as indicated) to represent the coalition's interests.

Depending on specific incident circumstances, Tier 2 coordination with the following agencies might be considered:

- EMS—tactical and strategic issues may be addressed through formal liaison with EMS. For example, Tier 2 may provide frequent status reports to EMS with each HCO's up-to-date receiving capacity. This promotes a more equitable distribution of patients by accounting for patient walk-ins, of which EMS transport officers might otherwise be unaware. At a strategic level, the Tier 2 liaison could have important input into action planning occurring within EMS.
- Public Health—presenting HCO concerns in a single, organized format to public health promotes a more timely response. This association is mutually beneficial because patient numbers, symptoms, or other patient-related information that is collected and formatted in a standardized manner by Tier 2 can be invaluable to public health epidemiological investigations.
- Law Enforcement—specific police support may be requested, or law enforcement may be alerted when their activities affect HCO operations (e.g., road closures that limit staff access to HCOs).
- Public Works—this is important in the event that loss of a specific utility affects HCO operations.
- Others—this may include the public school system, fire service/HAZMAT, military, national guard, or others as indicated by incident circumstances.

To promote an organized response system, the Tier 2 liaison is best assigned to the local EOC (a MACC for Tier 3) or to the jurisdictional incident command post (Tier 3), depending on the incident. In a primarily non-medical event, the Tier 2 liaison will likely integrate at the EOC; in a major medical event, integration should occur within the jurisdiction's ICS (see Figure 4-1). If a jurisdiction operates using principles outlined in the next chapter, representatives from all of the just-listed agencies would be present and available to work with the Tier 2 liaison.

3.5 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident operations, since this is the focus of the MSCC Management System.

While the following example demonstrates Tier 2 addressing specific activities, it should be noted that in some jurisdictions, many of these activities are addressed by Tier 3.

Background and Incident Description

- During MSCC preparedness planning, HCOs in Jurisdiction Y developed a sophisticated healthcare coalition (Tier 2) that is sponsored by the largest hospital in the city with support from the jurisdiction's Department of Health (DoH).
- The sponsoring hospital's primary contribution to the Tier 2 coalition is the commitment of its communications center, which during baseline operations coordinates helicopter and ground critical care transports for the hospital. During a major incident, the hospital assigns additional personnel to the communications center to ensure an operational capability for the Tier 2 coalition.
- A large incendiary explosion occurs at a subway station during evening rush hour. Calls to 911 report many burned casualties emerging from the underground station, which is on fire. Many victims flee the area before first responders arrive and organize the scene. The number of victims that may be trapped underground is a major concern.

Incident recognition is provided across the Tier 2 coalition by EMS dispatch. Multiple 911 calls describing "a large explosion with casualties" trigger a pre-determined threshold, and the EMS dispatcher notifies coalition hospitals as EMS units are sent to the scene. Almost simultaneously, initial media reports describe an explosion with casualties. Subsequently, the hospital closest to the blast site notifies the Tier 2 coalition that they have already received several walk-in burn patients from the event.

Notification/activation of the Tier 2 coalition occurs immediately and is accomplished by the initial EMS dispatch communication. The initial notification is sketchy and states only that an explosion has occurred at or near Station X, many casualties are expected, and EMS scene officers will call back shortly for an HCO bed availability count. Because of preparedness planning and training, the Tier 2 coalition partners know to immediately survey their HCO's bed availability and categorize additional patient capacity according to a predetermined format.

Mobilization involves the initial staffing of the Tier 2 call center (MACC), as well as the gathering of initial information from the various Tier 1 assets. This includes determining which Tier 1 assets are activating their respective EOPs. In addition, the coalition begins to gather additional incident information from Tier 3 for dissemination to the Tier 1 assets. Participating Tier 1 HCOs appoint a liaison from their organization as their primary contact with the MACC component of the Tier 2, and appoint a senior executive to participate in any potential MAC Group activities in Tier 2.

Incident operations begin within minutes, as initial bed counts are reported by each HCO. The Tier 2 information clearinghouse function collects and aggregates the data, and provides a composite of the data to EMS for use by triage and transport officers, and to the DoH communi-cations officer for jurisdictional (Tier 3) planning. Moreover, the composite is immediately distributed to all coalition HCOs and is used by hospital incident managers to anticipate surge needs for direct patient care or potential support needs for their partner HCOs.

- Shortly thereafter, the hospital closest to the blast site reports to the Tier 2 coalition that they are inundated with self-referrals from the scene. The composite hospital-receiving capacity is revised and transmitted to EMS so that triage and transport officers can adjust patient distribution accordingly. The revised composite is also sent to DoH and to all coalition HCOs.

Through the Tier 2 communications mechanism, coalition HCOs (with DoH participating) receive an incident update from an assistant EMS Chief at the blast site. The total number of victims is unclear because underground areas have not been fully accessed by rescuers. The Tier 2 coalition decides to implement a formal reporting mechanism to facilitate distribution of incident information to the HCOs and to jurisdictional health authorities (Tier 3). The Tier 2 clearinghouse function provides an electronic reporting format for hospitals to use and initially requests submission on an hourly basis. Information from the reports is collated by the Tier 2 clearinghouse function and redistributed back to the HCOs to give them a more comprehensive perspective of the response. Essential elements of information in the reports include:

- Situation reports at HCOs (counts of victims at each facility)
- Resource status updates (e.g., available beds, staff, supplies, pharmaceuticals)
- A composite communications plan that describes how jurisdictional authorities (Tier 3) can contact individual HCO's incident management teams (Tier 1).

The Tier 2 coalition coordinates various services among the HCOs. For example, staffing agencies that supply healthcare personnel to more than one HCO are coordinated through the Tier 2 coalition to prevent serious shortages at any one facility. In addition, the coalition sends a liaison to the jurisdiction's EOC to convey the collective issues and concerns of the HCOs to the EOC management team and appropriate Emergency Support Functions (ESFs). For example, the liaison to the EOC informs the jurisdiction that law enforcement activities (e.g., street closures) have hindered the ability of off-duty staff to return to the hospitals to assist with the surge in patient volume. This problem is rapidly addressed.

The blast caused a significant number of eye, burn, and respiratory injuries, which severely challenge the response capability of several HCOs. The Tier 2 coalition assists in coordinating medical mutual aid to these facilities:

- *Eye injuries:* The Tier 2 coalition rapidly locates available ophthalmologic capacity at partner facilities and coordinates the transfer of some victims with eye injuries (who are otherwise stable) to those facilities.

- *Burn injuries:* The one burn center in the area is overwhelmed with victims that have significant burns. The Tier 2 coalition writes guidelines for early inpatient hospital treatment of burn patients, and these are distributed electronically to area hospitals. Burn and trauma experts from an adjoining, unaffected jurisdiction are made available through the hospital radio/conference call system to provide clinical guidance as requested by the non-trauma and non-burn facilities that are receiving burn casualties. This information sharing increases the capability of hospitals to provide adequate initial burn care until out-of-region transfers can be arranged.
- *Respiratory injuries:* One hospital has received a large number of victims that are progressing to respiratory failure due to smoke inhalation. The hospital reports an urgent need for additional critical-care airway management capacity (i.e., ventilators, respiratory therapists, and critical-care staff). Two HCOs farther away from the blast site volunteer their excess capacity, which was generated when the HCOs activated their respective EOPs. Credentialed staff, ventilators, and other supplies are dispatched to the requesting hospital. The jurisdiction's public health authority (Tier 3) is also notified that additional ventilators, supplies, and critical care staff are needed from outside the jurisdiction. Actions are initiated to obtain these resources.

As the blast scene is cleared of victims, the jurisdiction's defined "incident" transitions from focusing on fire/EMS rescue at the site to supporting HCOs as they surge to meet victims' medical needs. Medical representatives from the Tier 2 coalition are appointed as senior advisors to the Tier 3 incident management team. Input from these advisors to jurisdictional incident management will promote optimal support of the local HCOs in their efforts to address evolving surge demands.

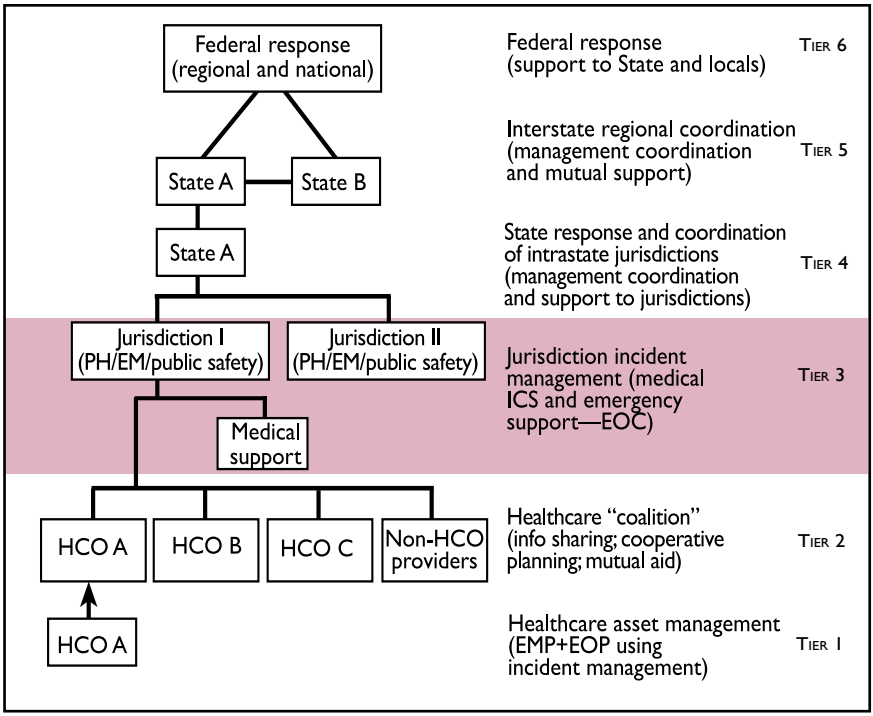
NOTES

NOTES

Chapter 4:
Jurisdiction Incident Management (Tier 3)

Contents

Jurisdiction Incident Management (Tier 3)



Jurisdiction incident management (Tier 3) is the primary site of integration of healthcare organizations (HCOs) with fire/EMS, law enforcement, emergency management, public health, public works, and other traditional response agencies. It provides the structure and support necessary for medical assets to maximize MSCC, and it allows direct input by medical representatives into jurisdictional action planning and decision-making. In addition, it links local medical assets with State and Federal support.

Key Points of the Chapter

Jurisdiction incident management (Tier 3) addresses MSCC at the level of the responding community. Earlier chapters focused on the management of individual healthcare assets (Tier 1) and on promoting cooperation among point-of-service medical providers (Tier 2). Tier 3 builds on this by describing the integration of public health and medical assets into the functional organization of incident command within the traditional emergency response community.

When a mass casualty and/or mass effect event occurs, multiple disciplines may be called into action, including public safety, public health, human services, emergency management, and others. Many of these disciplines do not routinely work together in this capacity and so are often unfamiliar with each other's emergency preparedness and response procedures. It is crucial, therefore, to establish incident management processes for jurisdictional (Tier 3) response that integrate the many diverse disciplines and promote coordinated response actions. This is accomplished through a well-organized and tested jurisdiction Emergency Operations Plan (EOP).

The basis for effective jurisdictional incident management (Tier 3) is the jurisdiction's Emergency Management Program (EMP). Public health and acute-care medical assets should be viewed as key components of the jurisdiction's EMP and should have direct input into preparedness and response planning. In times of crisis, jurisdictional management (Tier 3) will benefit from receiving a health and medical perspective on issues that determine incident objectives and response strategies. Moreover, individual HCOs may maximize their ability to provide MSCC through enhanced coordination with EMS and other community resources.

The integration of diverse organizations during incident response is best accomplished through *unified incident command*, a concept that allows multiple agencies to maintain significant management responsibility and to work together to achieve optimal response. A unified command approach promotes consistency throughout the response system. The participation of public health and medical disciplines in unified command at Tier 3 is important since they bear a primary responsibility for the welfare of responders and the general public.

NOTES

4.1 The Role of the Jurisdiction in MSCC

Jurisdiction incident management (Tier 3) and its emergency management operations support are critically important to maximizing MSCC. In a mass casualty and/or mass effect event, Tier 3 is the management level that effectively coordinates activities among the multiple and disparate entities involved in response for that jurisdiction. Because of its obligation to the community, Tier 3 is responsible for defining incident objectives and an overall response strategy for the community. Data from various response disciplines are aggregated and analyzed at Tier 3. Thus, the jurisdictional information processing function is critical in promoting timely application of community resources to support urgent medical care at individual HCOs (Tier 1).

4.2 Jurisdiction Emergency Management Program

The jurisdictional EMP brings together the many agencies that have defined roles in emergency or disaster response, including public health and acute-care medical organizations (Exhibit 4-1). It involves their active participation as a group in activities to mitigate, prepare for, respond to, and recover from mass casualty and/or mass effect events. It does not (and should not) preclude agencies from conducting their own EMP; rather, it provides a platform for individual efforts to be coordinated.

Exhibit 4-1. Participant Agencies/Organizations in the Jurisdiction Response

- Emergency management
- Emergency Medical Services (EMS)
- Fire service (often combined with EMS)
- Local law enforcement (police, sheriff, and others)
- Public health and human services (often combined)
- Public works
- Acute medical services (hospitals, community health centers, nursing homes, outpatient clinics, private medical physician offices and other acute-care providers)
- Others, as determined by incident circumstances (e.g., school system, local Federal resources, such as Federal law enforcement, military assets, or Veterans Affairs facilities)

The jurisdictional EMP is best developed (and refined) through regular meetings of the leadership of each participant agency. These meetings should be conducted using formats similar to those developed for incident planning (i.e., there should be a designated leader/moderator, an agenda specifying the meeting objectives, defined processes for decision-making, and documentation of pertinent information and action items). The meetings allow participants to interact with one another and work toward common goals, just as they would be called on to do in an actual incident response.

An effective Tier 3 preparedness planning process accomplishes the following:

- Provides an opportunity for a jurisdiction's emergency response "players" to get to know one another and to understand each other's operations and perspectives
- Enables response disciplines to better understand the emergency procedures and methods that characterize each other's response domain
- Promotes a sense of trust between response disciplines
- Provides a forum for discussing issues or concerns and implementing effective methods to resolve differences fairly.

Similar to Tiers 1 and 2, a valid hazard vulnerability analysis (HVA) forms the cornerstone of the jurisdictional EMP. Findings of each response agency's HVA may be summarized to develop the jurisdiction's HVA, or a separate joint analysis may be performed. An integrated HVA provides an opportunity for agencies to assist one another in addressing collective and individual risk. It also gives advance warning of areas where certain agencies are particularly vulnerable. The jurisdiction's emergency management authority usually develops the jurisdiction's HVA, which should be reviewed and updated annually to address new or emerging threats to a population (e.g., construction of a chemical manufacturing plant).

Important insight is gained by incorporating public health and acute-care medical disciplines in the jurisdiction's HVA. In many jurisdictions, public health authorities have already undertaken HVA activities in accordance with State and Federally funded mandates related to bioterrorism. These efforts may help with examinations of risks that may complicate jurisdictional (Tier 3) response to a bioterrorism event. There will be common hazards identified and, potentially, common vulnerabilities. Most significantly, the medical sector may have vulnerabilities not recognized and addressed in the jurisdiction's regular planning process. This is important since jurisdictional planning usually assumes that HCOs will survive the hazard impact and be available to care for incident victims.

4.3 Jurisdiction Emergency Operations Plan

The jurisdictional EOP provides action guidance for incident response at the level of the responding community. The sum of all activities related to developing and implementing the jurisdictional EOP represents *preparedness*. This includes establishing equipment and supply needs, educating and training personnel, and exercising the system to evaluate and improve procedures. Important considerations for the jurisdictional EOP include:

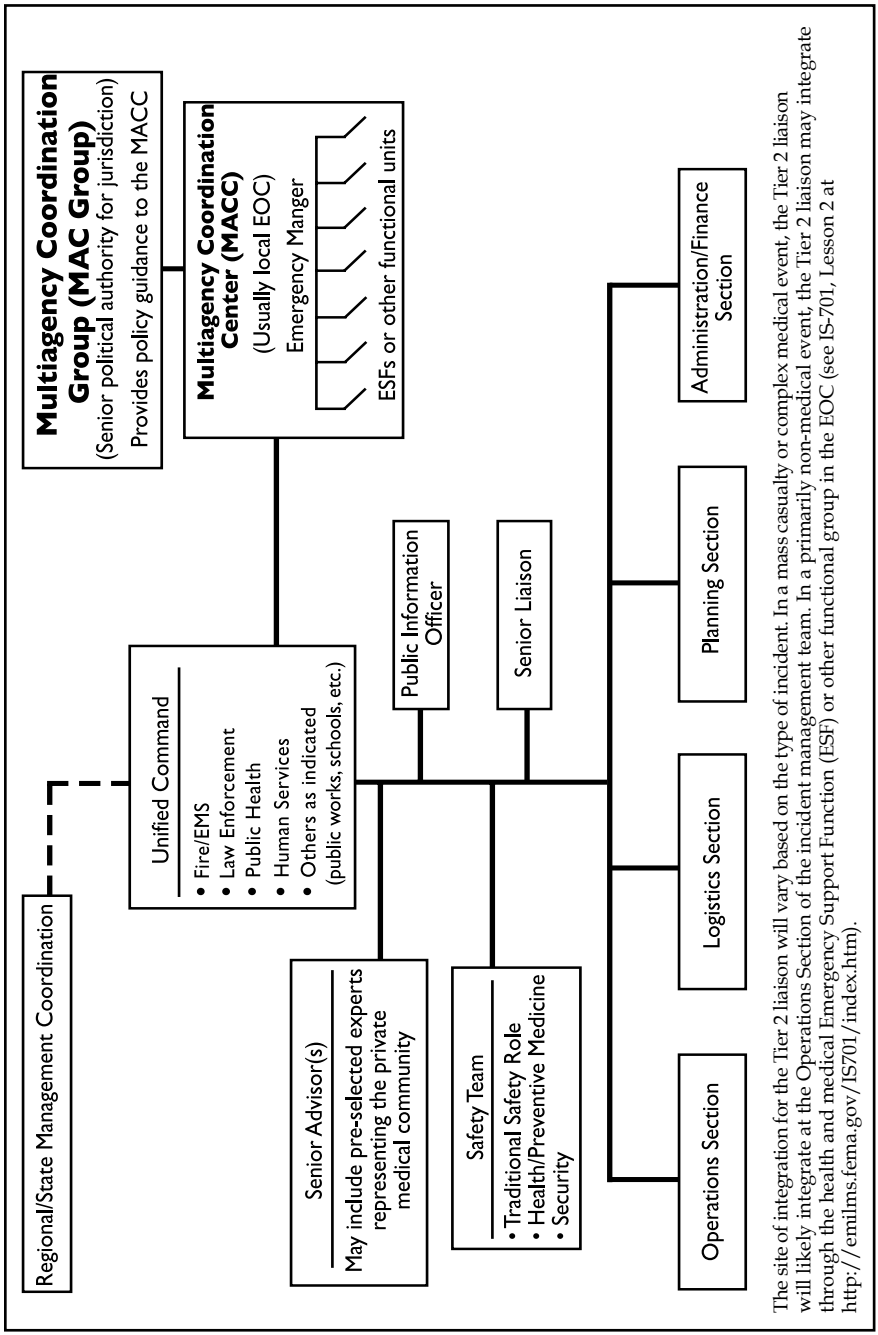
- Developing all-hazards processes that can address potential incidents ranging from traditional weather events to large explosions, infectious disease outbreaks, or contamination scenarios
- Identifying essential participants in the jurisdictional EOP when it is implemented for a response
- Providing a systems description of how the various disciplines will be organized and integrated during response (may vary depending on the type of event), to include:
  - Management structure and procedures for a multi-agency response
  - Processes for information management and exchange among participants.
- Describing key responsibilities for each stage of response.

By incorporating basic ICS and emergency management principles, and by integrating public health and acute-care medical disciplines, a functional Tier 3 management structure is proposed (Figure 4-1).

4.4 Organization of the Tier 3 Response

The jurisdictional (Tier 3) response to a major medical incident is guided by the same general ICS principles as the Tier 1 response (i.e., it is organized by functional areas—Command, Operations, Logistics, etc.). However, responsibility for the five primary functions may be distributed among multiple agencies at the Tier 3 level. In many cases, collaborative efforts between disciplines are necessary to ensure that these

Figure 4-1. Generic Management Structure for Jurisdictional Response



The site of integration for the Tier 2 liaison will vary based on the type of incident. In a mass casualty or complex medical event, the Tier 2 liaison will likely integrate at the Operations Section of the incident management team. In a primarily non-medical event, the Tier 2 liaison may integrate through the health and medical Emergency Support Function (ESF) or other functional group in the EOC (see IS-701, Lesson 2 at http://emilms.fema.gov/IS701/index.htm).

functions are adequately addressed (Exhibit 4-2). This is particularly true for the Command function. Distinguishing features of the jurisdictional (Tier 3) response, are *unified command and Multiagency Coordination Systems (MACS).* These form the basis for the remainder of the chapter.

Exhibit 4-2. Example of Multiagency Unified Command During Incident Operations

After recognition that a biological agent has been intentionally released into the community, public health may be designated as the lead agency in incident management, with primary responsibility for protecting the health and safety of the community. Public safety agencies also play a critical role by providing assistance to public health through their familiarity and expertise in ICS. They also support public health and medical operations. For example, the Logistics Section may consist primarily of fire service and public works resources providing support to public health by assisting epidemiological investigations or delivering prophylaxis medications to distribution centers.

4.4.1 Unified Command

Because multiple disciplines may have significant management roles in incident response, implementing a unified command (UC) is an effective way to promote cohesion within the response system. The UC facilitates information sharing and allows each involved discipline to provide input directly into the development of incident objectives and priorities. Although each agency's resources are integrated into the jurisdictional (Tier 3) operation, each agency retains *individual authority* over its assets and responsibilities. The disciplines most important to incorporate into the UC are those that primarily manage response in the jurisdictional EOP, including fire/EMS, law enforcement, public health, public works, and human services.

4.4.1.1 How Unified Command Works

Although the UC approach provides a certain level of equality among participants, a lead agency must be designated as the final arbiter in decision-making. This *lead agency authority* (a "first among equals") is determined by the type of incident according to guidelines established during preparedness planning (Exhibit 4-3). The lead agency should be clearly established at the outset of the incident response and publicized throughout the system so there is no doubt where the final decision authority rests.

Exhibit 4-3. Example of Lead Agency Designation Guidelines

Crisis/pre-hazard impact	Police department
Hostage/standoffs	Police department
Fires/explosions	Fire service
Flash floods	Fire service
HAZMAT release	Fire service
Infectious disease	Public health
Food contamination with illness	Public health
Water contamination, utility disruption	Public works

Because strategic concerns may change as an incident evolves, the lead authority may be temporarily deferred, via open dialogue between UC participants, to another agency. In some cases, incident parameters may change enough to require a *transfer* of lead authority to another discipline. In a well-run UC, the decision to transfer lead authority is made during a management meeting using processes established for incident planning; it is documented and disseminated to all responders. Processes for deferring or transferring lead authority should be outlined during preparedness planning.

The site where the UC operates, the Incident Command Post (ICP), must be rapidly established and communicated to all agencies at the outset of a response. In any large-scale or multi-scene event, several ICPs may be established during the early reactive phase of response, with multiple disciplines involved. Identifying where the primary incident command is occurring—and how it integrates with the other command, operations, support, and information centers—should be prioritized as a critical incident-planning task.

Responsibility for specific functions under UC should also be defined using guidelines established during preparedness planning. The conduct of Safety, Liaison, and Public Information functions may be considered as follows:

- Safety Officer oversees all actions taken to protect responders, including issues related to the health (e.g., vaccination/prophylaxis) and security safety of responders. It may be best managed with input from a multidisciplinary group (i.e., Safety team) composed of the jurisdiction's (Tier 3) public health, EMS, law enforcement, and/or medical assets. The Safety team provides high-level input directly to incident management and has the authority to interrupt activities that appear unduly hazardous to responders.

- Senior Liaisons are assigned to agencies outside the jurisdictional ICS, such as jurisdictions adjacent to an affected community, or Federal agencies operating independently in an area. UC designates liaisons based on the type of incident and the agencies involved. For example, during response to a terrorist act involving an infectious disease outbreak, a senior public health official might be assigned as a liaison to the Joint Field Office (JFO). Assignments may vary from one incident to the next, and as incident parameters change, but liaison staff should remain consistent during an incident to promote continuity of interactions.
- Public Information Officer (PIO) serves as the official spokesperson for the jurisdiction (Tier 3) response, talking specifically about the incident and providing official incident-related data. Moreover, the PIO monitors the media message and the public's reaction in an effort to detect rumors and correct misinformation. The PIO should not usurp the responsibility of the PIO from the jurisdiction's political authority or from the Emergency Operations Center (EOC). Thus, processes should be established during preparedness planning to ensure coordination among these entities in developing the media message. As with safety, multidisciplinary input to this task is generally preferred, with the lead PIO assigned according to the lead authority in the UC.

4.4.1.2 Medical Participation in Unified Command

During a large-scale event, especially one with a primarily medical focus, acute-care medicine should be involved in incident command decisions and defining the response objectives. UC, therefore, must allow for direct input from a jurisdiction's medical community.[1] This can be accomplished either by including medicine as a formal participant in the UC (with fire/EMS, human services, law enforcement, etc.), or by establishing a senior advisory role for medicine to the UC. Because most medical assets are privately owned (and therefore lack legal protection for public action during incident response), the senior advisory approach may be preferred.

Figure 4-1 (presented earlier) illustrates the senior advisory concept and how it fits into the UC. The medical representatives who serve as advisors may come from the healthcare coalition (Tier 2) or be jointly selected by the jurisdiction's medical community. The role of these "trusted

[1] Hospitals, integrated healthcare systems, clinics, alternative care facilities, nursing homes and other skilled nursing facilities, private practitioners' offices, and other assets constituting Tier 1 in the MSCC Management System (see page 2-2) represent the medical community.

agents" must be clearly defined during preparedness planning. They should be chosen based, in part, on their ability to represent the collective interests and concerns of *all health and medical organizations in the jurisdiction* when presenting recommendations to incident command. In addition, the medical advisors should have operational medicine experience and be well versed in the principles of ICS.

The advisory group should be notified and available on request to provide advice throughout an incident; however, its input is most critical when incident circumstances require the medical community to significantly alter its normal operations (e.g., asking HCOs to adhere to unusual isolation procedures in a prolonged disease outbreak). Although medical advisors report incident information back to their constituents, they are not responsible for providing jurisdictional (Tier 3) management with updates on the status of HCOs. This should occur through a defined process within the Planning Section of the jurisdictional ICS.

4.4.2 ICS Functional Area Activities in a Tier 3 Response

Operations, Logistics, Planning, and Administration/Finance Sections will likely also require *multiple disciplines* to collaborate using a unified methodology. The managers of these sections, typically known as "Chiefs," make up the "general staff" of the jurisdictional (Tier 3) response. The Incident Commander (or lead authority in the UC team) appoints Section Chiefs at the outset of response from a pool of candidates identified and trained during preparedness planning. The Chiefs are usually senior members of the lead authority agency/organization who have significant experience in emergency or disaster response and demonstrated management expertise in ICS.

Specific activities of the four sections are as follows:

- ***Operations Section*** develops the tactics and assignments to accomplish operational period objectives set by the incident commander. In a jurisdictional (Tier 3) response, several "branches" within Operations may be necessary to organize assets responsible for public health and medical issues. For example, Operations branches that may be indicated during a major medical incident,

[2] This example is adapted from the Medical and Health incident Management (MaHIM) System. More detailed information on each Operations branch can be accessed at http://www.gwu.edu/~icdrm/

are highlighted in Figure 4-2 along with brief descriptions of the activities for which each branch is responsible.[2] The activation of Operations branches will depend on incident circumstances and, in fact, most incidents will not require all branches.

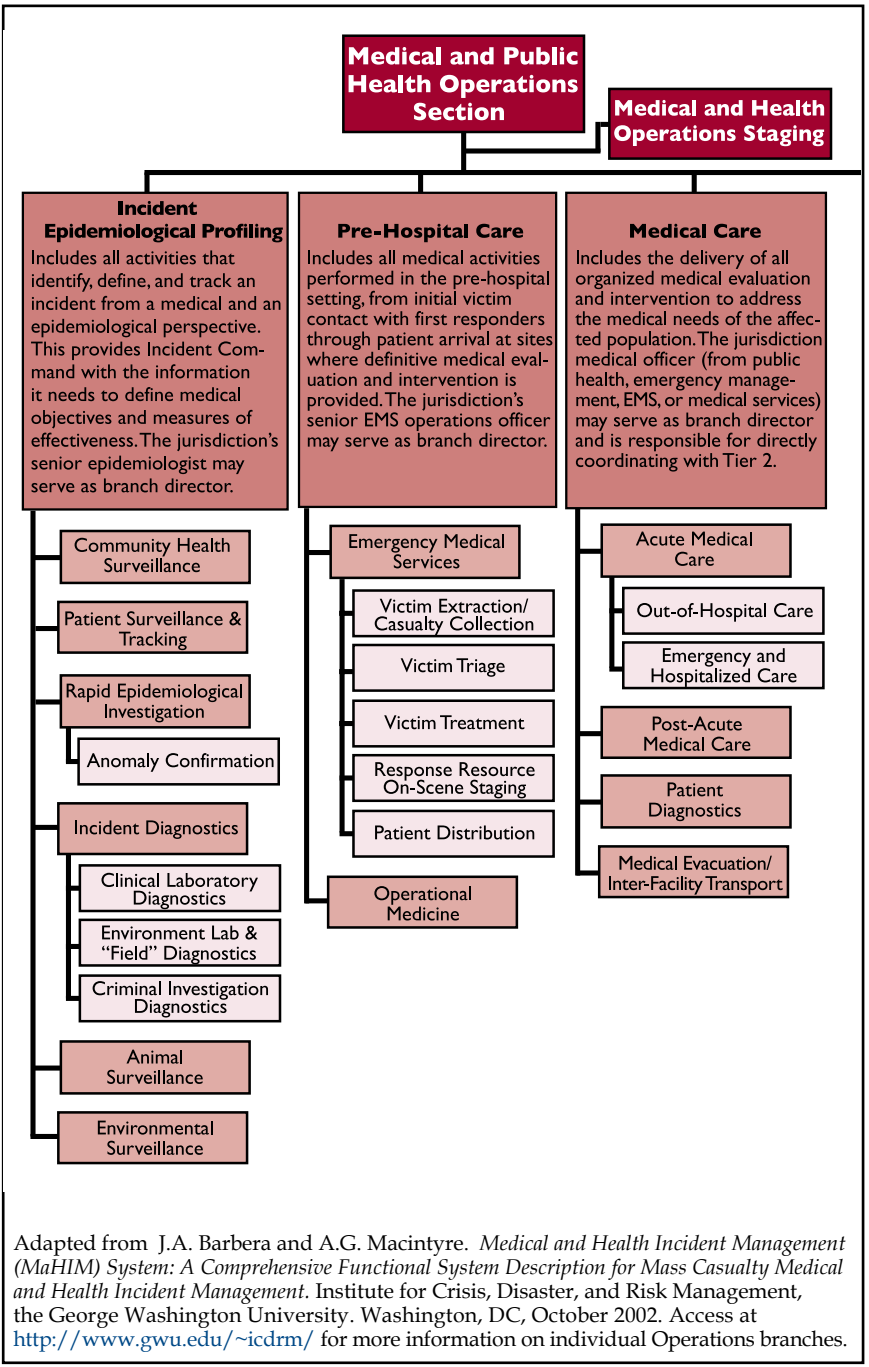
- ***Logistics Section*** manages activities that provide support through equipment and supplies, transportation, personnel, processing of volunteers, and technical activities to maintain the function of operational facilities. For example, Logistics would help in receiving, transporting, and protecting a cache from the Strategic National Stockpile (whereas Operations focuses on providing prophylactic medications to the at-risk population).

- ***Planning Section*** supports Command and Operations in processing incident information and developing incident action plans (IAPs) for the response. It is responsible for collecting, analyzing, and disseminating aggregate data, and maintaining up-to-date documentation of resource status. The Planning Section must specifically address:
  - Support for incident command in carrying out planning meetings (e.g., set meeting schedule, develop an agenda, ensure that objectives are established, incorporate decisions into the IAP)
  - Event projections (based on the known characteristics of the hazard and its historical impact, if there is one)
  - Evaluation of response progress by monitoring valid measures of effectiveness;[3]
  - Contingency and long-range planning
  - Demobilization planning
  - Support to complete each IAP (e.g., writing, printing).

  In addition, the Planning Section manages multiple types of information in a major health or medical response including:
  - **Situation status:** Incident parameters (e.g., numbers of victims, locations, types of injury or illness)
  - **Resource status:** Response asset parameters (e.g., tracking such resources as staffed beds available at local hospitals, quantities of a particular prophylaxis for distribution)

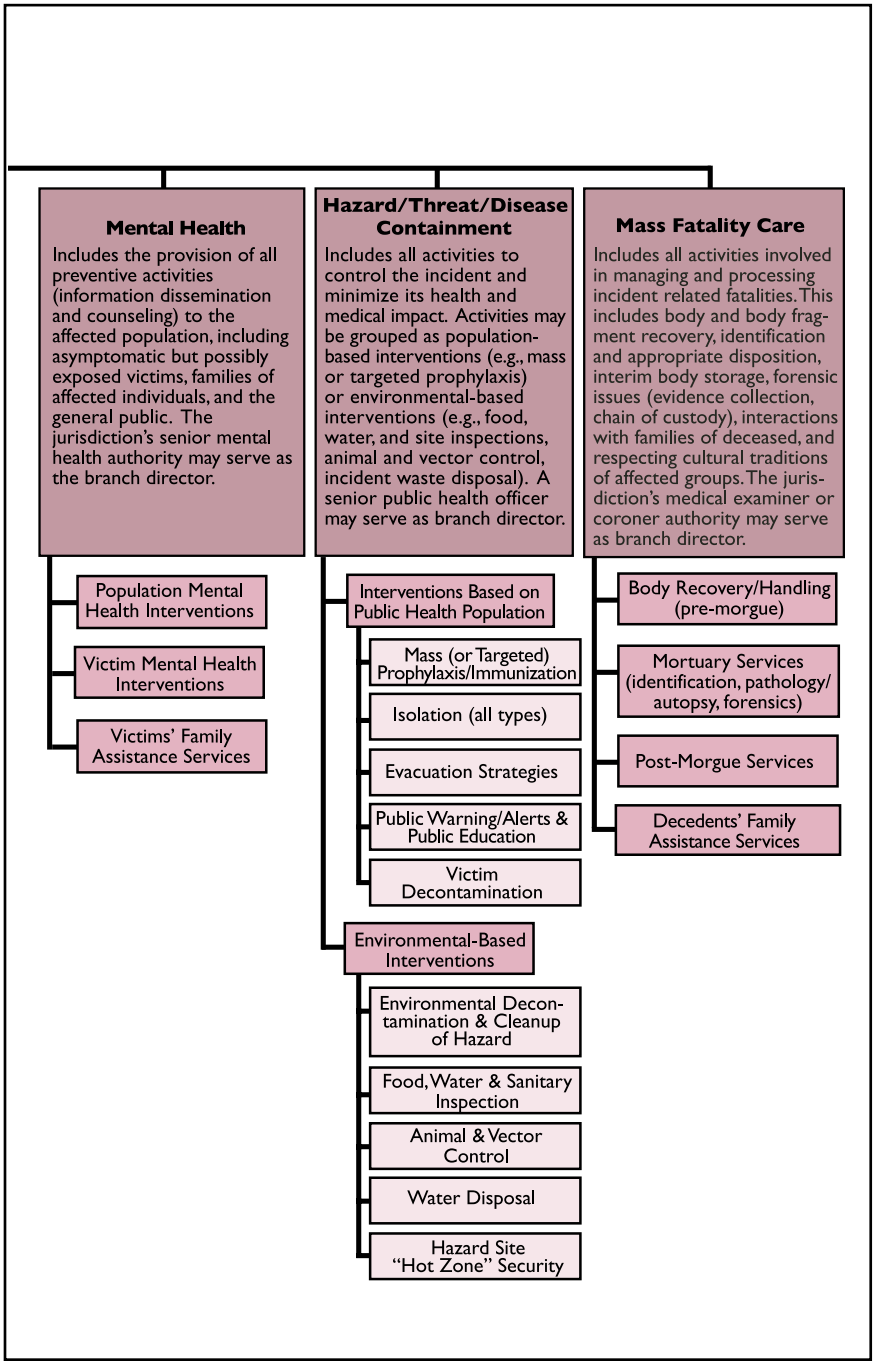
[3] Measures of effectiveness are observable criteria that management accepts as accurate and valid reflections that incident response is accomplishing its objectives. They should be defined in the planning process and used in the situation status reports.

Figure 4-2. Operations Branches for Medical and Public Health Assets



Adapted from J.A. Barbera and A.G. Macintyre. *Medical and Health Incident Management (MaHIM) System: A Comprehensive Functional System Description for Mass Casualty Medical and Health Incident Management*. Institute for Crisis, Disaster, and Risk Management, the George Washington University. Washington, DC, October 2002. Access at http://www.gwu.edu/~icdrm/ for more information on individual Operations branches.

Figure 4-2. Operations Branches for Medical and Health Assets (cont.)



- Recommendations and directives (e.g., informing responders and the general public about evaluation and treatment protocols).

- ***Administration/Finance Section*** supports Command and Operations in administrative issues and in tracking and processing incident-related expenses. Examples of the issues that might be of concern for the public health and medical disciplines include:
  - Practitioner licensure requirements
  - Regulatory compliance issues, including the possible temporary suspension of certain regulations during the period of emergency (as indicated)
  - Financial accounting during an incident
  - Contracting for services and supplies directly available to incident managers.

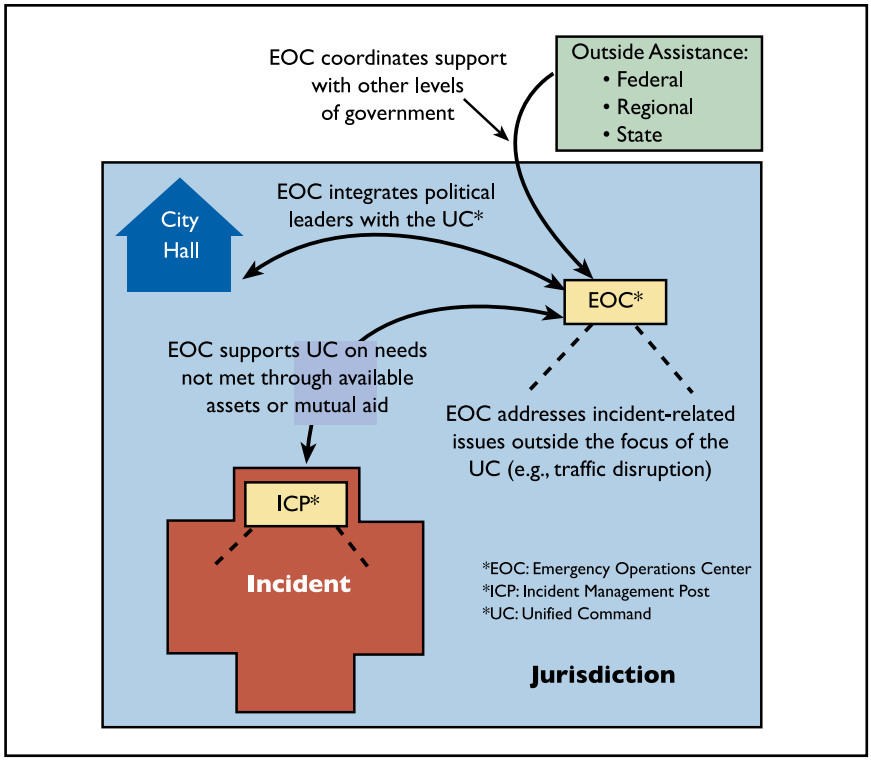
4.5 Integration of Jurisdiction Incident Management and Local Emergency Management: The Jurisdictional MACS

Emergency management operations support to the UC occurs through the jurisdiction's Multiagency Coordination Center or MACC, which is commonly based at an EOC. The EOC is the pre-designated facility in a jurisdiction from which emergency management personnel and government officials exercise direction and control in an emergency and provide high-level support to the UC. In the traditional disaster scenario, the UC operates from an ICP at the incident scene (e.g., site of a building collapse), and is geographically separated from the EOC (Figure 4-3).

If the incident is diffuse, involves the entire jurisdiction, or in some other way prevents the UC from establishing its ICP elsewhere, the EOC may provide the structure and function for the ICP. When this occurs, the UC should occupy a space that is separate from emergency management operations support personnel so the focus of the UC remains distinct from that of the local emergency management and the MACS. However, the EOC leadership (in many cases, this is the local emergency manager) should attend and participate in the UC planning meetings and operations briefings,

[4] When the UC is operating at a distant incident scene, EOC leadership could still participate in UC planning meetings via teleconference or some other defined mechanism. This is helpful in promoting full coordination between incident command and emergency management operations support.

Figure 4-3. EOC Incident Support in Traditional Emergency Response



and related activities.[4] This integrates the UC with the local jurisdiction's MACS, but avoids risking crossover/conflict between their designated response roles. It also empowers the EOC to more actively support the UC by better anticipating possible incident response needs.

4.6 Integration with Other Tiers

The jurisdictional (Tier 3) response system integrates with other tiers primarily through its information management function. The capability to collect, analyze, and disseminate aggregated data should always be operational, even if only at a baseline level during times of non-response. This enables healthcare coalition (Tier 2) leaders to be notified of upcoming meetings or changes to the jurisdictional response system. It also facilitates timely incident response by providing key medical personnel (e.g., Tier 2 coalition managers) with the earliest reports of hazards that may have significant medical implications.

During incident response, a robust jurisdictional (Tier 3) information management function within the Planning Section continually processes data received from the Tier 2 coalition to obtain real-time situation status on HCO operations. This situation status information is reported back to the data sources and is also used for Tier 3 incident action planning. Integration of this information into jurisdictional (Tier 3) action planning, and providing jurisdiction IAP action plan information to the HCOs promotes coordination of response actions between tiers. For example, plans to shut down roads or public transportation systems in an area may greatly affect the ability of healthcare personnel to reach local HCOs. Having this concern communicated via the Tier 2 liaison to the UC is beneficial in helping Operations Section personnel under UC (or in the EOC) develop tactics that will not interfere with HCO activities. In a similar way, an adequate information management function can provide much needed guidance to medical practitioners during an incident (Exhibit 4-4).

Exhibit 4-4. Jurisdictional Guidance to Local Medical Practitioners

Example: In an unusual infectious disease outbreak, a jurisdiction's public health authority may issue health advisories that contain practitioner guidelines on patient evaluation, treatment modalities, and methods for reporting suspect cases. Medical practitioners benefit from the ability to access this information as incident circumstances evolve because it is both medically sound and it carries jurisdictional public health authority for implementation. The application of this guidance across a jurisdiction promotes hazard impact containment through evaluation and treatment efficiency and consistency, data reporting for incident profiling, and indications for altering or improving medical therapy or other recommendations.

The New York City Department of Health and Mental Hygiene website is an excellent public health model for disseminating accurate, timely, and authoritative medical guidance (http://www.nyc.gov/html/doh/html/home/home.shtml).

The jurisdictional (Tier 3) ICS integrates with State authorities (Tier 4) primarily through its information management function. Timely processing and dissemination of incident and response parameters enable the Governor to determine the need for declaring a formal emergency or requesting Federal support. Such information also makes it possible to link affected intrastate jurisdictions so they can coordinate response efforts. Finally, it facilitates the coordination and distribution of State tactical mutual aid to areas with the greatest need.

The integration of jurisdictional and State entities with responsibility for emergency preparedness and response is a primary mission of several Federal initiatives. One example is the DHS-funded Metropolitan Medical Response System (MMRS) program. The MMRS provides funding and guidance to select highly populated jurisdictions (124 as of FY 2003) to develop plans, conduct training and exercises, and acquire pharmaceutical caches, PPE, and other capabilities necessary to respond to a mass casualty and/or mass effect event. It also requires planning integration with State (Tier 4), neighboring interstate jurisdictions (Tier 5), and Federal (Tier 6) entities. The MSCC Management System provides an effective platform for health and medical disciplines to coordinate/integrate capabilities acquired or developed through the MMRS.

4.7 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident response operations, as this is the focus of the MSCC Management System.

Background and Incident Description

- Jurisdiction Alpha is a city of moderate size whose western border adjoins another State.
- A very sick patient with severe respiratory distress and a fever is admitted to a hospital in Jurisdiction Alpha. His admission was preceded by nearly three days of progressive illness with cough. During this time, he continued to work as a butcher in a small but popular meat shop. Since the patient had recently returned from an overseas trip to areas where severe acute respiratory syndrome (SARS) had reappeared, SARS is suspected and the jurisdiction's Department of Health (DoH) is notified.
- The patient dies a short time after his admission to the hospital.

Incident recognition begins when the clinical suspicion is first reported to DoH and public health experts recognize the implications. Although it has not been confirmed, the suspicion of SARS is enough to warrant immediate actions by DoH, and a rapid health investigation commences. Epidemiological questioning quickly indicates that the patient (index case) had exposure to many customers at the meat shop after becoming demonstrably ill.

Notification/activation occurs when the DoH public health officer requests a management meeting with representatives from emergency management, fire/EMS, law enforcement, and public works. After a brief discussion, they agree to partially activate Jurisdiction Alpha's EOP for public health response (formal declaration of emergency is *not* required to activate portions of the EOP). The following actions also occur:

- Using the jurisdiction's public safety communications center (as specified in the EOP), a written communication is sent to all agencies that automatically participate in the EOP. The notification only activates jurisdictional resources that are needed for the initial response.
- An alert is issued to all HCOs in the jurisdiction (through Tier 2) indicating what is known about the demographics and recent history of the index patient, and any reported outbreaks elsewhere in the United States. The alert notifies Tier 2 assets that the jurisdiction EOP is partially activated.
- A similar notification is provided to the State DoH, which notifies neighboring regions and the CDC using mechanisms established in Tiers 4, 5, and 6.
- The mayor and city council are notified and immediately express concern. They recognize the potential human impact, as well as the implications for business and tourism. The mayor's PIO works with the DoH PIO to draft and immediately release a statement to the public explaining the jurisdiction's response.

Mobilization of jurisdictional resources occurs as the designated agencies activate their individual EOPs, and ramp up their staffing accordingly. Similarly, Jurisdiction Alpha's EOC is activated and staffed.

Incident operations are led by a UC that was designated in the initial management meeting. The UC is composed of selected individuals from jurisdictional (Tier 3) public health, fire/EMS, and law enforcement. The jurisdiction's public health authority is recognized as the "lead" UC agency. The UC coordinates closely with the jurisdiction's emergency manager, who manages the EOC (a MACC for the UC).

Management representatives from each agency in the UC conduct a teleconference to discuss what is known about the incident and to determine a course of action. It is decided that an ICP will be established at the DoH Operations Center, but UC members agree to transfer the ICP to the jurisdiction's EOC if management needs exceed the resources available at the DoH Operations Center. This backup is planned because multiple reports are coming in about patients with febrile illnesses reporting to HCOs. Many of these patients have recently visited the butcher shop in question.

Members of the UC quickly establish themselves at the ICP and coordinate the integration of their respective disciplines. Each agency maintains authority over its own assets, yet all contribute to the composition of the ICS Sections (Operations, Logistics, Plannings, Admin/Finance). For example, a senior DoH staff member directs the Operations Section, while personnel from other agencies manage specific branches (see Figure 4-2) under Operations.

- A jurisdictional epidemiologist manages the Incident Epidemiological Profiling and Hazard Containment branches, with additional resources supplied by other agencies.
- EMS manages Pre-Hospital Care.
- A trained, experienced medical administrator pre-selected by the the Tier 2 coalition serves as a senior medical advisor to the UC for issues related to hospital care. This role is designed to provide the hospital and medical practitioners' "perspective" when the UC is considering jurisdictional decisions that will affect the provision of incident-related medical care.
- A jurisdictional medical examiner manages Fatality Care.

Expedited SARS serology tests from the index patient strongly indicate the patient died from SARS. Confirmatory testing is being conducted at the CDC. The rapid epidemiological investigation, aided by public service announcements asking anyone in contact with the meat shop to report to a DoH clinic for evaluation, has identified an extensive list of potential contacts. The contacts are given written instructions on the disease, its signs and symptoms, and precautionary measures. They are provided digital thermometers and arrangements are made to contact them daily for a health check.

Based on available information, the UC develops the first formal jurisdictional IAP for the next opertional period (designated as the upcoming 24-hour period starting at 7:00 a.m.). The jurisdictional IAP includes:

- Control objectives for the overall response
- Operational period objectives
- Strategies for achieving the objectives, including:
  - Disease containment for healthcare workers, identified contacts of the index case, and the general public
  - Surveillance of the health of identified index case contacts
  - Surveillance of HCOs and medical providers to identify other cases of possible SARS in the jurisdiction
  - Contingency planning for medical surge needs (e.g., hospital isolation, critical care services, screening of concerned members of the public)
  - Concise public information bulletins that are consistent across all tiers.
- Response tactics, including:
  - Twice daily telephonic screening of identified contacts, looking for early symptoms
  - Educational information for identified case contacts
  - Voluntary separation of contacts, with health personnel to assist and ensure that they maintain their separation from the public
  - Educational information and personal protection supplies for family members who remain at home during the contact's period of voluntary separation
  - Educational information for healthcare providers describing the early signs, symptoms, and physical findings of SARS. Contact information is also provided to report suspected cases, including how to obtain expedited serologic testing.
  - Educational information for the public.
- Situation status and resource status updates for the jurisdiction

- Chart illustrating the jurisdiction's incident command organization, with the primary role of each agency and other significant participants specified; contact information is provided; the chart also demonstrates the relationship of UC to the EOC and to department operations centers.
- Communications and safety plans, including DoH recommended protection (e.g., PPE, isolation, other protective measures for persons caring for potential SARS victims).

The jurisdictional IAP is shared with Tier 2 coalition members and State emergency management officials (Tier 4). The State, in turn, provides pertinent information to adjoining jurisdictions, bordering States, and to Federal public health personnel assisting in the State response. The operational period established by the State is adjusted so that State meetings occur one hour after the jurisdiction's (Tier 3) meetings. This phase-shift of Tier 4's operational period allows for coordination of operational briefings.

With the UC having defined its incident objectives and strategies through the jurisdictional IAP, other activities are identified for emergency management operations support to address through the EOC. These EOC responsibilities include:

- Interfacing with the private sector (excluding hospitals, which are considered part of incident operations)
- Interfacing with the State and the Federal Government (except for Federal health and medical resources that consult to, or work under, the jurisdiction's management system)
- Determining school closures, addressing transportation disruptions, and managing other SARS impacts on the jurisdiction
- Providing interface of UC with MAC Group (mayor and her senior advisors).

NOTES

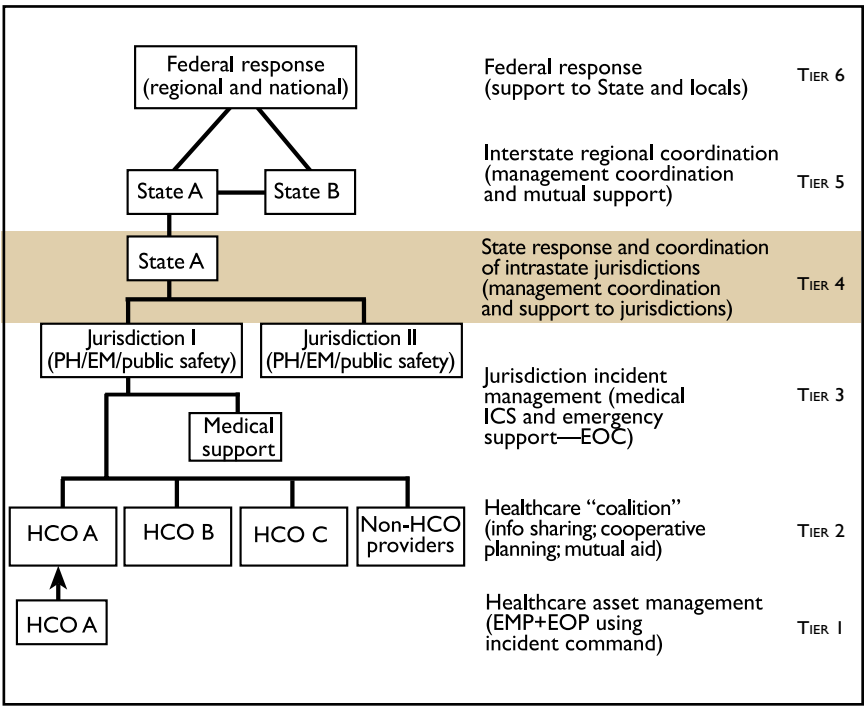
NOTES

NOTES

Chapter 5: Management of State Response and Coordination of Intrastate Jurisdictions (Tier 4)

Contents

Management of State Response and Coordination of Intrastate Jurisdictions (Tier 4)



Tier 4 encompasses all State agencies that are responsible for emergency management, public health, and public safety preparedness and response. It addresses situations in which the State is considered the lead incident command authority, and those in which the State coordinates multijurisdictional incident management (Tier 3).

Key Points of the Chapter

The role of State Government in providing MSCC will vary based on incident circumstances and State-specific regulations. In general, however, States may enhance MSCC by:

- Assisting jurisdictional incident management (Tier 3) when local resources are severely challenged
- Providing primary incident command in widespread emergencies that reach to a state-wide level of responsibility
- Providing State resources to assist the local response
- Coordinating with incident management in other affected States
- Integrating State and jurisdictional response efforts with Federal support (Tier 6).

The State Emergency Management Program (EMP) should fully integrate public health and acute-care medicine with traditional response disciplines (e.g., fire/EMS, law enforcement). This will benefit State emergency health initiatives, such as bioterrorism preparedness, by promoting interdisciplinary cooperation. It will also benefit non-health-related emergency response by providing an integrated public health and medical perspective. An important focus of the State EMP should be developing management processes that facilitate integration between *State-based* and *local or jurisdictional* authorities. Experience has shown that coordination across jurisdictional boundaries must be carefully addressed to promote an effective emergency or disaster response.

State-level incident management can strengthen multijurisdictional response by coordinating management teams in affected jurisdictions. This is best accomplished through a robust Tier 4 information management function, established in the Planning Section of the State's incident management team, or alternatively, in the State's Multiagency Coordination Center (MACC). In addition, the coordination of tactical mutual aid between intrastate jurisdictions brings health and medical resources to areas of greatest need. Strategic or "master" mutual aid guidelines developed by the State during preparedness planning facilitate this aid distribution. In incidents where the State has primary incident command

authority, State public health and medical managers should organize as part of the State's unified command, rather than attempt to manage incident response through Emergency Support Function (ESF) positions in the State Emergency Operations Center (EOC).

5.1 The Role of the State in MSCC

At the State level, authority and responsibility for emergency management typically reside within an Emergency Management Agency (EMA), although variations exist. Before 9/11 and the anthrax attacks in 2001, it was common for States to consider public health and medical emergencies to be distinct from other emergencies, thus requiring separate processes for response that were not all centrally supported by the EMA and public safety agencies. However, this approach has begun to change, as current State and Federal initiatives (including HHS bioterrorism preparedness programs) call for the development of management processes to improve coordination among State agencies, and between the State and intrastate jurisdictions.

Another issue post-9/11 has been the growth of State level homeland security agencies and how they integrate with existing emergency management and public health programs. While homeland security programs generally focus on terrorism, emergency management traditionally has taken an all-hazards approach. It is important for public health and medical emergency planners to understand how these programs are structured within their jurisdiction, and where authority lies for emergency or disaster response.

The role of States in MSCC will vary based on their individual laws and regulations. In general, however, State authorities may assume several key responsibilities during emergency preparedness and response. The following paragraphs describe four such responsibilities.

1. ***Assist jurisdictional incident management (Tier 3)*** when local response resources become severely challenged. The bulk of this operations support is commonly provided through the State level MACC at the State EOC. Assistance may include:

- Providing assets or funding for the purchase or use of additional resources
- Assisting with the coordination of intrastate mutual aid
- Facilitating interaction, information flow, and strategic planning between affected intrastate jurisdictions.

States can also assist the medical sector by providing regulatory relief during incident response (Exhibit 5-1). Relevant State laws or regulations that may need to be revised or temporarily suspended in a public health or medical emergency should be identified during preparedness planning, and processes for their revision or temporary suspension should be formally described. Some examples include:

- Professional licensure, permit, or fee requirements for:
  - State medical, nursing, or other healthcare providers
  - Out-of-State medical, nursing, or other healthcare providers
  - Pharmacists or pharmacy services
  - Medical examiners
- Statutes governing the number of licensed or staffed beds allowed in healthcare organizations (HCOs)
- Statutes governing access to and disclosure of protected medical information
- Regulations stipulating provider-to-patient ratios and other standards of care parameters
- Regulations surrounding processing the remains of the deceased (e.g., in the event of overwhelming mass fatalities).

Exhibit 5-1. Emergency Medical Regulatory Relief

In the aftermath of Hurricane Katrina, the Governor of Louisiana declared a state of public health emergency and issued an Executive Order temporarily suspending State licensure laws, rules, and regulations for out-of-State medical professionals and personnel offering medical services in Louisiana, provided that these out-of-State medical personnel possessed current State medical licenses in good standing in their respective State(s) of licensure. In addition, the Executive Order designated out-of-State medical professionals and personnel as agents of the State of Louisiana for tort liability purposes.

2. ***Provide primary incident command*** in response to certain emergencies or disasters. State Government (led by the Governor or his/her designee) provides management oversight of the unified command (UC) and directs response activities according to a State Emergency Operations Plan (EOP).[1] Scenarios that might necessitate State-based incident command include:

[1]This chapter does not examine specific components of the State EOP, since these will vary significantly from State to State. The focus instead is on the various roles States may have in catastrophic events.

- Diffuse or widespread incidents involving multiple jurisdictions (but incorporating recognition of authority at the local level)
- Incidents requiring response assets that are primarily State resources (e.g., public health epidemiology expertise)
- Public health incidents and other types of emergencies designated by State laws or regulations.

3. ***Coordinate among multiple States*** to promote a consistent response strategy across State boundaries. The State may also work with States not affected by a hazard to facilitate receipt and distribution of tactical mutual aid to affected communities. Interstate coordination is addressed in more detail in Tier 5.
4. ***Provide the requisite interface with Federal authorities*** so local jurisdictions can request and receive Federal support (see Tier 6). The Governor or his/her designee declares a formal public health or general emergency and adheres to established procedures to request, receive, and distribute Federal assistance to affected jurisdictions. These procedures should be defined during preparedness planning.

5.2 State Emergency Management Program

State activities conducted through the EMA to mitigate, prepare for, respond to, and recover from emergencies or disasters constitute the State EMP.[2] It is recommended that the State EMP fully integrate public health and acute-care medical entities with other response disciplines (e.g., fire/EMS, emergency management). This will enhance special public health initiatives, such as bioterrorism preparedness programs, by promoting interdisciplinary cooperation and integration (Exhibit 5-2).

[2] The State EMP may be accredited through the Emergency Management Accreditation Program (EMAP), a voluntary process to assess EMPs through collaboratively developed national standards. Additional information on EMAP is available at http://www.emaponline.

Exhibit 5-2. Integration of Health and Medicine in EMP Activities

State EMPs often include exercises to test the State EOP. Even if an exercise scenario does not have a primary public health or medical focus, planners should include public health and medical representatives at the outset of the exercise planning process. This enhances integration by allowing personnel from all disciplines to familiarize themselves with the plan and with each other. It may also benefit non-health responders, since almost every incident response has public shealth and medical implications, even if they are not immediately realized. Information that contributes to maintaining the health of responders can be critical, regardless of whether the event involves human victims. An example would be health examination of food sources for field providers on an extended environmental incident.

An important aim of the State EMP should be to bridge any coordination gap that may exist between public health and public safety agencies. Because public health has evolved primarily as a State-based authority, it may be difficult during disaster or emergency response to effectively coordinate with public safety, which usually manages events from the local *jurisdictional* government level. In addition, public health personnel historically are not well experienced in the ICS processes practiced by public safety and emergency management agencies (though this is changing). Therefore, preparedness planning should examine the operational methods necessary to integrate State public health with local emergency management and public safety during incident response.

The State EMP may contain *strategic* or "master" guidelines that govern *tactical* mutual aid arrangements.[3] The master guidelines stipulate operational requirements for activation of tactical mutual aid (described in Section 5.3.2), such as standardized criteria for designated resources. As applied to medical assistance, master mutual aid guidelines might specifically resolve such major issues as professional licensure, liability risk, worker compensation, and resource mobilization. Moreover, they should specify the processes to request and receive medical and health aid from other States (see Tier 5).

5.3 Support to Local Jurisdiction Response

Because incident management is usually based at the local level, the role of State Government in a mass casualty and/or mass effect incident is often to support the jurisdictional (Tier 3) response effort when local resources are severely challenged. This may come in the form of coordinating

[3]Mutual aid may be guided by "agreements," "memoranda of understanding," or other designations based on the degree of legal obligation desired by the mutual aid partners.

incident management activities among affected jurisdictions, and/or coordinating tactical mutual aid support between local jurisdictions.

5.3.1 Coordinating Multijurisdictional Incident Management

Response to multijurisdictional events can be greatly strengthened by coordinating incident management activities across affected jurisdictions. State-level incident support (Tier 4) should focus on facilitating information sharing via a robust State information management function. Important considerations for public health and medical response may include the following:

- ***Standardized reporting requirements*** to promote uniform reporting of medical and health issues from affected jurisdictions. These processes should be established by the State EMA (in coordination with State public health) during preparedness planning, and (at a minimum) they should address the following parameters:
  - *When to report:* The timing of reports should be announced to jurisdiction incident commanders at the outset of a response, and should coincide with established operational periods to ensure that the information is included in the development of incident action plans (IAPs).[4]
  - *What to report:* Specific content needs should be determined that will be useful in coordinating the medical and health response across jurisdictions. Examples may include situation reports, IAPs, and HCO or other resource status updates.
  - *Where to report:* The destination for transmitting reports should be established during preparedness planning, as well as who the primary point of contact is at the State level (Tier 4).
  - *How to report:* Standardized formats should be used, if possible, to record pertinent information. This may greatly hasten the process of collecting, aggregating, and analyzing the data, and disseminating the information back to affected jurisdictions (Tier 3).
- ***Standardized response actions*** such as operational tactics ("protocols") for patient triage, evaluation, and treatment can be shared across jurisdictions. Similarly, disease case definitions and medical advice for the concerned public should be coordinated. The intent is not to tell individual jurisdictions what to do, but to share what other jurisdictions are doing so they can make informed decisions about adjusting their practices, or prepare to explain response variance to patients and healthcare providers.

[4]Appendix C provides a more detailed description of incident action plans.

- ***Coordinated regional resources*** for the optimal use of medical and health resources that are unevenly distributed across jurisdictions. A prime example is medical laboratories. Many States already coordinate these particular assets through the Centers for Disease Control and Prevention's Laboratory Response Network (LRN). Other resources (e.g., critical care transport, mass fatality services) should be similarly integrated.

5.3.2 Coordinating Tactical Mutual Aid

In a mass casualty and/or mass effect incident, it is often necessary to obtain response resources from outside an affected jurisdiction to meet medical surge demands. Depending on the need, resources may come directly from the State (e.g., public health epidemiology expertise) or, more commonly, from an unaffected jurisdiction (e.g., medication supplies, critical care equipment). State Government can play a critical role in establishing processes for mutual aid distribution.

Important preparedness considerations for medical and health mutual aid include the following:

- ***Processes for requesting assistance:*** Clearly defined processes for requesting, accepting, and supervising mutual aid must be developed during preparedness activities. They should describe the circumstances in which mutual aid can be requested, as well as specific procedures for making such requests. For example, master mutual aid guidelines may stipulate that the State be informed when mutual aid between jurisdictions is being requested, so they can monitor the situation and maintain awareness of asset allocation. Mutual aid arrangements should specify which officials are authorized to request and/or accept resources.
- ***Resource typing:*** Establish standardized specifications of expertise and/or the size of resources commonly requested through mutual aid. For medical and public health disciplines, this might mean stipulating requisite qualifications for certain personnel (e.g., specialty training, licensure) and standardizing the description of a "resource unit," such as a critical care team. According to NIMS terminology, resources are classified by resource "kind" (i.e., generally what they do), and the variations within each resource kind are categorized as "types." Healthcare resource typing as a national initiative is underway but incomplete, so it is important to carefully describe the type of assistance being requested. Additionally, States may wish to stipulate that medical

professionals filling the requests include only practitioners with formal credentials or hospital privileges, thereby avoiding the deployment of students, physicians-in-training, or inactive practitioners unless explicitly included in the request. Some States have already developed similar agreements concerning the sharing of personnel from other disciplines (Exhibit 5-3).

Exhibit 5-3. Emergency Managers Mutual Aid (EMMA)

While mutual aid agreements may be broad in scope and cover a variety of assets or personnel, some are written to address a very specific type of resource. California has established a mutual aid agreement for situations in which additional professional emergency management personnel are needed to assist with emergency response. This agreement, known as the EMMA Plan, describes processes for employing emergency managers from unaffected areas to support local or regional response efforts in affected communities.[5] It follows the basic framework of the California master mutual aid agreement, and addresses such issues as liability and staff training. Similar agreements could be established for medical or public health personnel under master mutual aid agreements that already exist in States.

- ***Transportation:*** Delineate how donated aid will be physically transported to a requesting facility. For medical personnel, this may include specifying to whom or where they will report, and what forms of identification they should bring (e.g., copy of State licensure). Mutual aid agreements should also address how patients will be transported between facilities and at what point responsibility for patient care is officially transferred.
- ***Staging:*** Define how assets are managed, supported, and positioned until officially assigned to the incident. In some instances, this may require the provision of logistical support to the staged assets until they are assigned.
- ***Reimbursement/compensation:*** Define how costs and charges will be assigned to the receiving jurisdiction or facility. This is important because emergency funds may provide needed financial relief for incurred expenses. In the case of personal injury to donated staff, the requesting facility usually assumes financial responsibility. Reimbursement is made to the workers' care program of the donor facility.

[5]Emergency Managers Mutual Aid (EMMA) Plan. California Office of Emergency Services, November 1997. Accessed September 20, 2006 at: http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/Emergency%20Managers%20Mutual%20Aid%20Guidance/$file/EMMAGuidance.pdf.

- ***Liability:*** Establish guidelines for the assumption of liability. Except in cases of gross negligence or willful misconduct, liability is usually accepted by the requesting entity. This issue is particularly important to address for medical providers.
- ***Documentation:*** Define guidelines for the use of documentation to effectively support mutual aid assistance (e.g., standardizing time logs for deployed personnel, stipulating that patient records are transported with patients, protecting both physical and electronic medical records, and others).
- ***Notification to higher tiers:*** Delineate processes to notify other tiers when mutual aid is activated. Notification of the jurisdiction or State EOC is critical when any local mutual aid is activated, and information must be provided that describes the deployed mutual aid assets. This enables the jurisdictions and the State to track the availability of their response assets.

5.4 Primary Incident Command

In a catastrophic event (e.g., major earthquake, hurricane, or terrorist attack), State Government may assume primary responsibility for incident command. A common belief among many States is that the structure of the State EOC is adequate for *managing* medical and public health response. In reality, however, this may not represent an ideal arrangement since the ESF structure and function are designed to *support* incident management (hence the name, Emergency Support Function). Thus, States that assume primary incident command authority should establish a separate incident management team, incorporating ICS principles, to manage response functions. This concept was effectively demonstrated by Illinois public health during TOPOFF 2 (Exhibit 5-4).

Exhibit 5-4. State Responsibility for Primary Incident Command

The State of Illinois response in Top Officials 2 (TOPOFF 2)—a bioterrorism exercise in May 2003—provides an excellent example of how a State can effectively assume primary incident command responsibility. In TOPOFF 2, Illinois successfully implemented a State public health Incident Command Post (ICP) that was supported by the nearby State EOC. This response organization demonstrated the significant *incident command responsibility* of State medical and health authorities in response to a major incident. It also emphasized that medical and public health managers can organize as incident managers, rather than attempt to manage from a support position (i.e., an ESF) in the State EOC. This example also serves to highlight the differences between ICPs and MACCs.

The State's incident management team should be composed of State officials from across the range of response disciplines, including State medical and public health authorities. This team defines incident goals (known as "control objectives" in NIMS), operational period objectives, and the overall response strategy for the State. In addition, the State performs the lead information management function. It collects data from intrastate jurisdictions (Tier 3), collates the data and conducts analyses, and then disseminates the aggregate information back to jurisdictional managers to provide the "big picture" of how the incident and response are unfolding.

In a catastrophic event, the role of the State as the primary incident command authority is relatively straightforward. However, in a subtle incident (e.g., onset of an unknown infectious disease), primary command will likely be based initially at the jurisdictional (Tier 3) level. As information begins to emerge on the potential size and scope of the incident, a decision might be made to transfer primary command authority to the State. This decision is made through a meeting of the jurisdiction UC or, if multiple jurisdictions are involved, a meeting of the lead agency authorities from the multiple jurisdictions as coordinated by the State. An alternative may be to develop an "area command"[6] that coordinates assets across the involved incident management teams.

[6]The NIMS definition of area command is provided in Appendix D.

The role of State political leaders in incident management should be clearly understood.[7] The Governor bears ultimate responsibility for the safety and well-being of the State population. For events with potentially serious medical or public health implications, the Governor may declare a public health emergency; this generally activates the formal State public health response. The Governor may also temporarily suspend relevant State laws or regulations that impede response activities (see Exhibit 5-1). Preparedness planning should identify regulations that might need to be revised or temporarily suspended and the legal procedures required to carry out these actions. In addition, as the elected spokesperson for his/her State, the Governor plays a critical role in public information management by:

- ***Maintaining public confidence:*** This is accomplished by providing the visible message that the State Government is focused on the incident response, has the intention to assist victims and their families, and is bringing all available resources to bear.
- ***Providing a context to the incident:*** This may be established in part by:
  - Recognizing publicly the size and complexity of the incident
  - Describing that the response will take time and extraordinary effort
  - Providing other information that helps the victims and the public understand what has happened.

    For example, by expressing community outrage after an intentional hazard impact such as terrorism, and verbalizing both the mass impact of the event and the community's commitment to recover, the political leader may help the community come together for both response and recovery.
- ***Establishing and managing public expectations for the response:*** This is critically important in medical and public health events, where response is often complicated and solutions are not easily or rapidly achieved. Regularly informing the media and public of ongoing response efforts can help to shape behavior, and promote a better public understanding of how to best measure "progress" in complex events. This can also help to calm fears and minimize psychological impact.

[7]Because the role of senior political authorities varies from State to State, readers are advised to review their respective State laws and regulations for State-specific information.

State medical and public health officials (serving in a management role) should consider developing a briefing for the Governor (serving in an Agency Executive role) and his/her staff that describes key MSCC management and response issues. One critical area to explain is that "measures of effectiveness" used to evaluate a medical response may not be directly related to obvious outcomes, such as mortality or disease prevalence rates. For example, if all victims in a radiation incident were exposed to a fatal dose of radiation, the ongoing death of victims over days is not a measure of response effectiveness: the mortality rate had been unalterably set in motion prior to incident recognition and response. True measures of effectiveness for each type of medical incident should be developed during preparedness planning, and then reviewed and revised as indicated as a specific incident unfolds.

The Model State Emergency Health Powers Act (MSEHPA) provides one basic template for State authorities to define their major responsibilities in emergency or disaster response.[8] Developed after the 9/11 attacks, MSEHPA suggests that States have a comprehensive plan in place for coordinated, appropriate response to incidents that threaten the public's health. It identifies specific laws or regulations that may need to be developed (or revised if already existing) to protect the health and safety of the general population. Key issues addressed that may be relevant for health and medical response include:

- Requirements for reporting illness or health conditions (including animal disease)
- Patient tracking and facility or materials examination
- Examination and decontamination of facilities or materials
- Information sharing
- Quarantine and isolation of persons or property
- Access to and disclosure of public health information
- Licensing and appointment of health or medical personnel
- Public information management
- Financial accounting, liability, and compensation.

[8]Additional information on MSEHPA can be accessed at the website of the Center for Law and the Public's Health at Georgetown and Johns Hopkins Universities: http://www.publichealthlaw.net/Resources/Modellaws.htm

In the years since the MSEHPA was published, experience has altered how it is applied. Readers are encouraged to review the published materials on this topic for a better understanding of its current application.

5.5 Integration With Other Tiers

Management of the State response (Tier 4) requires effective integration of State public health and medical assets with jurisdictional incident management (Tier 3). This function may be provided under the guidance of State public health using the infrastructure capability (e.g., manpower, computing resources, communications equipment) of the State EOC.[9] In this way, State emergency management personnel collect and analyze public health and medical data generated by jurisdictional (Tier 3) unified command teams, as well as investigative findings from law enforcement and other agencies. The ability to examine these data, *in real time*, and rapidly return aggregate information to jurisdictions facilitates incident planning and promotes a consistent multijurisdictional strategy. It also enables the State to maintain accurate and updated records of resource availability—a crucial factor in coordinating mutual aid support.

A challenging aspect of the State response is coordinating the efforts of multiple jurisdictions without infringing on their responsibility in incident management. This is best accomplished by establishing key information requirements for all State jurisdictions through the Planning Section of the State incident management team or the MACC (i.e., State EOC). Standardized procedures should be developed for reporting medical and public health data (i.e., what, when, where, and how) and for requesting mutual aid. Reports should include strategies and tactics being used by local jurisdictions through their jurisdictional IAPs. This integrates the State with jurisdictional incident management (Tier 3) and facilitates coordination between affected jurisdictions. It also reduces the chance that conflicting strategies between jurisdictions may occur, causing anxiety and weakening public confidence in the response. A well-defined information management function enables local medical and public healthcare providers to access guidelines for patient evaluation and treatment from State public health authorities. This capability can be critical in a rapidly evolving infectious disease outbreak.

[9]If the State is serving as the primary incident command authority, then its ICS Planning Section would provide this service.

The State (Tier 4) also provides the interface between jurisdictional incident management (Tier 3) and Federal public health and medical assistance (Tier 6). For example, the State Governor makes the formal request to HHS for the Strategic National Stockpile (SNS) if the need for SNS assets is identified. If the SNS is deployed, State officials work closely with SNS coordinators and jurisdictional managers to coordinate its distribution to affected jurisdictions. The information management (i.e., knowing what support is needed) and incident management (i.e., working with local incident managers) facilitates this process.

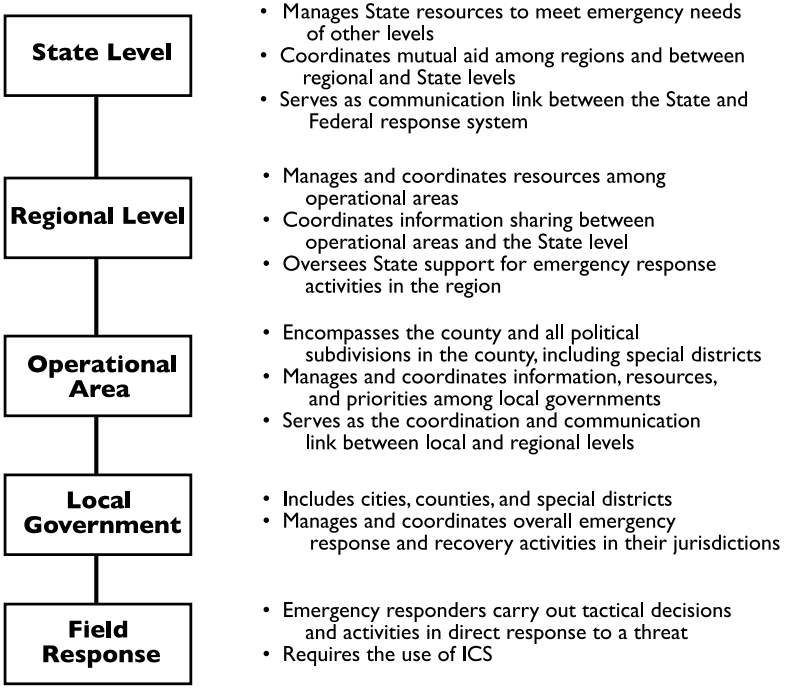
How a State organizes its emergency services to promote integration will depend on many factors, including its geography, population distribution, and historical hazard experience. Some States favor a decentralized approach with the expectation that most hazards will be managed by relatively sovereign local jurisdictions. Other States have established detailed State-driven management procedures that are outlined in extensive regulations. The Standardized Emergency Management System (SEMS) in California provides an excellent example of the latter situation and is briefly described here.

California established SEMS in the early 1990s as a Statewide management system for use by public safety personnel (e.g., firefighters, police) and other emergency responders. State agencies are required by law to use SEMS for incidents involving multiple agencies or multiple jurisdictions. In addition, local governments must use SEMS in multiagency or multijurisdiction response to be eligible for State reimbursement for response-related personnel costs.[10] SEMS is flexible to meet the demands of all hazards, and it is based on ICS functions (Command, Operations, etc.) and a five-level organization of response (Figure 5-1).

Although SEMS provides a well-developed organization for *public safety* emergency services, it does not comprehensively address the incorpora-

[10]Office of Emergency Services, California. Standardized Emergency Management System (SEMS) Guidelines for Special Districts (1999); Accessed April 20, 2004 at: http://www.oes.ca.gov

Figure 5-1. Generic SEMS Management Structure



Information abstracted from Standardized Emergency Management System (SEMS) Guidelines for Special Districts. Available at: http://www.oes.ca.gov.

tion of public health or private medical assets as the primary responders and incident managers. In addition, SEMS generally assumes a defined incident scene and relies on this to organize the initial response structure (this is understandable given the major hazard risks in California). However, because a defined scene is much less likely in a public health emergency, additional organizational guidance may prove helpful. The MSCC Management System was written to provide such guidance.

The Metropolitan Medical Response System (MMRS), described in more detail in chapter 4, is a Federal Department of Homeland Security (DHS) program that provides guidance for metropolitan areas to coordinate medical response across local jurisdictional borders.[11]

[11]Information on the MMRS program is available at: http://www.mmrs.fema.gov/default.aspx

5.6 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident operations, as this is the focus of the MSCC Management System.

Background and Incident Description

- State Alpha is a southern State on the U.S. coast.
- A large Category 4 hurricane has struck the State, devastating multiple jurisdictions along the coast with extensive structural damage and flooding.
- In at least three separate low-lying jurisdictions with high population densities, HCOs have had their normal operations disrupted due to flooding.

In this scenario, the early stages of response unfold well before the event occurs:

- **Incident recognition** occurs several days prior to landfall when the National Weather Service issues a hurricane warning for the coast of State Alpha.
- **Notification/activation** occurs when the State EMA notifies State emergency response agencies, private response assets (e.g., HCOs), and the general public, and issues practical preparedness recommendations.
- **Mobilization** of State emergency/disaster services is characterized by the following steps:
  - The primary ICP is established in the facilities that house the State's EOC. State-level incident comand is now co-located with, but physically separate from, its emergency management operations support at the EOC.
  - A UC team composed of representatives from the primary response disciplines is established at the ICP. A senior health officer from the State's Department of Health (DoH) serves on the UC to represent public health and medical issues.

- The State ensures that weather-resistant communications are operating between the ICP/EOC and jurisdictional EOCs. The State issues short-term preparedness recommendations for State-level response agencies, and calls on jurisdictions directly in the storm's path to provide immediate post-landfall situation and resource status reports. Instruction is given on what to include in reports, where they should be sent, and how to format the information.

Incident operations are initially characterized by full evacuations of coastal areas and the pre-positioning of State response resources. State-level incident command works closely with Federal authorities to coordinate pre-positioning of Federal response assets. State action plans are issued for the two 24-hour operational periods preceding landfall. As the storm approaches, State Alpha switches to 12-hour planning cycles and fully staffs its ICP/EOC.

In the aftermath of the hurricane, affected areas report on storm-related injuries and physical/structural damage. It is quickly recognized that regular and emergency medical care has been compromised at multiple hospitals in several jurisdictions. The State UC assumes a primary incident command role and establishes overarching control objectives, operational period objective and response strategies. The State incident action plan (IAP) is developed and shared with affected jurisdictions, with other States (Tier 5), and with the Federal assistance liaison (Tier 6). This promotes the "common operating picture" described in NIMS. A key component of the State IAP is a public health and medical section that includes the following:

- Public health and medical situation assessments and resource status reports from data collected daily by affected jurisdictions; the assessments capture the number and types of victims directly affected by the event, as well as the medical special needs populations in the jurisdictions;
- Input into the safety message that includes public information messages to address such issues as displaced populations of wildlife and the handling of water in affected areas.

Based on initial reports, the State UC anticipates that local jurisdictions will need support and thus offers medical and public health resources to assist with unmet needs. State medical assets are provided to

support the incident response being managed in the most heavily affected jurisdictions. This includes a State-sponsored Disaster Medical Assistance Team (DMAT). In addition, evacuation planning for some severely impacted HCOs is undertaken in conjunction with Federal partners (Tier 6) and State medical and health personnel are deployed to support locally affected health departments. The latter integrate through the jurisdictional (Tier 3) Logistics function and are assigned to the appropriate Operations Section positions in the jurisdictional ICS.

State Alpha's Governor and State health officer temporarily suspend, through emergency declarations, selected State health regulations. This action allows for:

- Relaxation of restrictions on hospital bed capacity in the most heavily affected jurisdictions so facilities that are still operational can "legally" care for more victims than their State license stipulates.
- Temporary changes to State licensing and certification regulations for healthcare professionals. The emergency regulations, developed during preparedness planning, permit HCOs to accept evidence of licensure from other States and allows medications to be dispensed by healthcare personnel other than physicians, nurses, or pharmacists.
- Establishment of several convenient locations where out-of-State healthcare personnel who want to volunteer in the response can report for screening, examination of their professional credentials, and granting of temporary credentials from State Alpha. This removes the credentialing burden from local jurisdictions and local HCOs.

One jurisdiction that was not fully evacuated has temporarily lost use of its primary outpatient and inpatient dialysis centers. Mutual aid is requested to provide dialysis services using resources from an unaffected jurisdiction elsewhere in the State. The State MAC Group (Agency Executive directors convened to address strategic and policy issues in the response) addresses the financial issues involved in meeting this request. The MACC (i.e., State EOC) implements the MAC Group decisions and addresses the issues that allow the dialysis mutual aid to be arranged and executed. Logistical issues involve transportation to move personnel and equipment, public works to arrange for a clean water source for the

dialysis machines, and other details. The State also provides a financial guarantee to the assisting jurisdiction, as well as reporting guidelines so Federal reimbursement may be obtained.

The State facilitates coordination between affected local jurisdictions (Tier 3). Situation assessment and resource status reports are collected from affected jurisdictions and collated to provide summary health and medical information for the State. These aggregate data are included in the State IAP. State public health authorities provide case definitions for reporting storm-related injuries or illnesses. Included in this message is guidance for reporting gastrointestinal complaints. This becomes critical later to counter rumors about the outbreak of infectious disease.

Lastly, State Alpha coordinates with other nearby States (Tier 5) and with Federal agencies (Tier 6). Jurisdictional public health and medical needs that cannot be met through local resources or tactical mutual aid are reported to the State EOC. The State rapidly evaluates the requests and attempts to meet them using assets within State Alpha. For requests that cannot be met by the State, the MACC (i.e., State EOC) inquires from its regional partners (Tier 5) and/or forwards a request for assistance to Federal authorities. For example, when all three affected jurisdictions request medical teams to provide out-of-hospital patient evaluation and medical care, the State-sponsored DMAT can only fill one jurisdiction's request. Additional resources are requested from Federal agencies (Tier 6), but will take time to arrive. The appropriate assignment of the State DMAT may be determined by the MAC Group, or through the MACC using a pre-developed decision support tool for determining the best use of the DMAT asset.

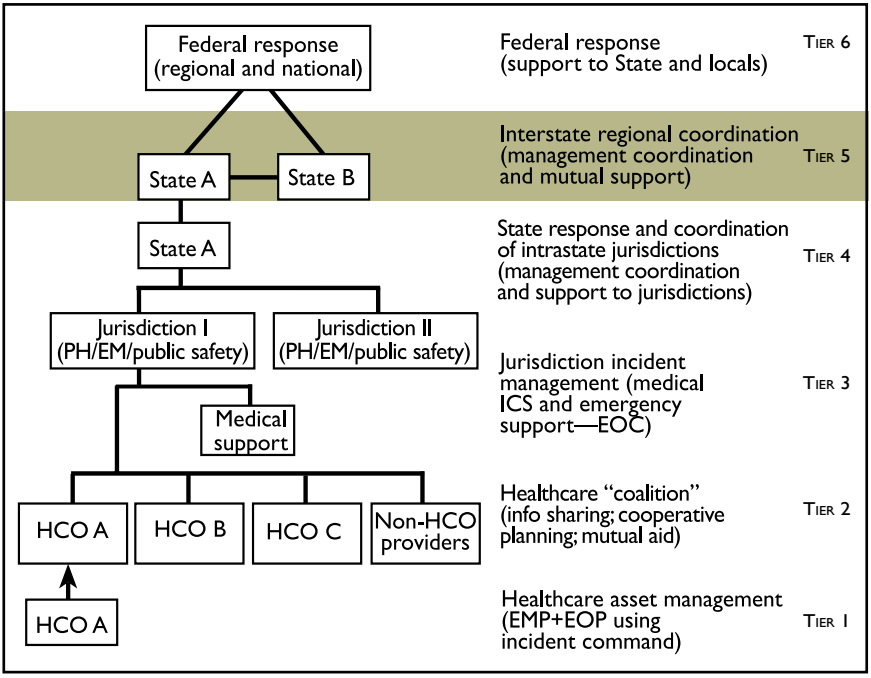
NOTES

NOTES

Chapter 6:
Interstate Regional Management Coordination (Tier 5)

Contents

Interstate Regional Management Coordination (Tier 5)



Tier 5 describes the processes by which States assist one another and coordinate management and response activities during times of crisis. It includes State-level agencies that oversee emergency management, public health, medical, and public safety emergency preparedness and response.

Key Points of the Chapter

During a catastrophic event, interstate coordination is an effective and often necessary means to acquire adequate MSCC. Collaborative efforts between States promote system-wide consistency in response strategies and ensure optimal utilization of available public health and medical resources. An effective regional response must be rooted in an open exchange of information, incident management coordination, and mutual aid support, as described below:

- ***Information sharing:*** Before addressing communications technology, States should establish what type of information is important to share, and to whom that information should be provided. These information "requirements" generally include the following:
  - Overarching management strategies and specific tactics
  - Situation assessments and resource updates
  - Safety information for responders and the public.
- ***Management coordination:*** Incident action plans and support plans should be shared between incident managers while these plans are still in developmental stages. This will help identify potential areas of conflict in response strategy between States and allow for corrective action before such conflicts undermine the success of the overall response system.
- ***Mutual aid:*** This describes the provision of emergency services and assets to provide MSCC when individual State resources are insufficient to meet surge demands. Strategic mutual aid guidelines provide the general framework for tactical mutual aid agreements between States. The latter specify operational processes for requesting, receiving, and managing emergency support assets.

The Emergency Management Assistance Compact (EMAC) provides a vehicle for regional coordination and mutual aid during a Governor-declared emergency or disaster. Public health and medical assistance is specifically noted in EMAC, and public health and medical emergency planners are encouraged to review EMAC and how it is being implemented in their State as part of their preparedness activities. In addition, they should work closely with the HHS Regional Emergency Coordinators (REC) in their region to coordinate planning for and execution of interstate regional public health and medical mutual aid assistance.[1]

[1]Tier 6 discusses the roles and responsibilities of HHS RECs in greater detail.

[This page left intentionally blank]

6.1 The Role of Interstate Coordination in MSCC

Legal and political realities dictate that each State bears ultimate responsibility for the safety and welfare of its citizens. In times of crisis, however, it may be necessary for States to share information and resources with one another to support a coordinated response. The need for interstate coordination and mutual aid assistance is driven by several factors:

- Few States, if any, possess the full range of resources necessary to respond to all types of emergencies (natural or man-made), or the capability to get resources to areas of greatest need.
- Population growth near State borders has significantly increased the potential for hazard impacts to affect a population that extends across State boundaries.
- An increasingly mobile workforce in the United States raises the probability that the onset of certain delayed hazards (e.g., biological, chemical, or radiological agents) may actually manifest more prominently in victims who live outside the area of immediate impact.
- Omnipresent media coverage easily spotlights discrepancies in the response actions of affected jurisdictions or States. Reports of such discrepancies may erode public confidence and cause undue anxiety in the population (Exhibit 6-1).

Exhibit 6-1. The Implications of Interstate Incident Strategy Conflict

A stark example of the problems with conflicting interstate response strategies was evident in the National Capital Area when West Nile Virus arrived in the summer of 2000. Montgomery County, Maryland, elected to spray for mosquitoes when the virus was detected in a mosquito pool on the border with the District of Columbia. In contrast, the District followed expert advice and elected not to spray. The conflicting policies and their rationale were not explained to the public until a media controversy erupted, causing significant public unrest that consumed public officials' time and attention.

Interstate coordination is an effective way to promote the optimal distribution of available medical and public health resources in support of overall MSCC. It enables affected States to share information, including incident goals (known as "control objectives" in NIMS) and operational period objectives defined by incident command, so that a consistent response strategy can be implemented across State borders.

To be effective, interstate coordination must entail the following:

- Open and reciprocal information exchange regarding incident and response parameters
- The ability to compare and discuss incident action plans (IAPs) for individual States, *as they are developed*
- An understanding that creating consistency among State IAPs and proactively addressing apparent interstate discrepancies will enhance the overall response system
- Effectively using the coordination platform to provide assistance, such as cross-border mutual aid.

6.2 Forms of Interstate Coordination

Three primary methods for interstate coordination during emergency or disaster response are information sharing, incident management coordination, and mutual aid. At a basic level, *information sharing* is critical because it allows States to stay up to date on how an incident is unfolding, how other States (Tier 4) or jurisdictions (Tier 3) are responding, and what resources have been committed or remain available. *Incident management coordination* builds consistency in regional strategies and promotes similarity in the development and application of operational tactics. *Mutual aid* maximizes MSCC by bringing materials, personnel, and/or services to areas where resources are insufficient to meet surge demands.

6.2.1 Information Sharing

While the importance of sharing information and data with other affected States, *in real time,* is easily recognized, most efforts to address this issue have focused on communications technology. A major shortcoming of these efforts is that they neglect to first establish what type of information is important to share, where to obtain it, and who needs to receive it; these requirements should be set during preparedness planning. The types of information to share include the following:

- ***Situation assessments:*** Provide current reports of relevant incident information regarding public health and medical issues, as well as specific epidemiological information that may be useful in developing respective State IAPs.
- ***Resource assessments:*** Provide updated reports on the status of resources that are committed to the response and those that remain available. This helps managers or officials from other States gauge the severity of hazard impact, as well as the potential impact that may occur if people evacuate an area. It also provides a means to anticipate likely requests for mutual aid.
- ***General strategies and specific tactics:*** Offer insight into how a State's effort is organized. This is beneficial to other States that may be confronted with similar problems and promotes resolution of conflicting tactics before such discrepancies are highlighted by the media.
- ***Safety information:*** Describes State or jurisdictional approaches to health and medical issues affecting responders (such as recommendations for vaccination or medication prophylaxis). This can help standardize safety protocols for responders across disciplines and State boundaries.

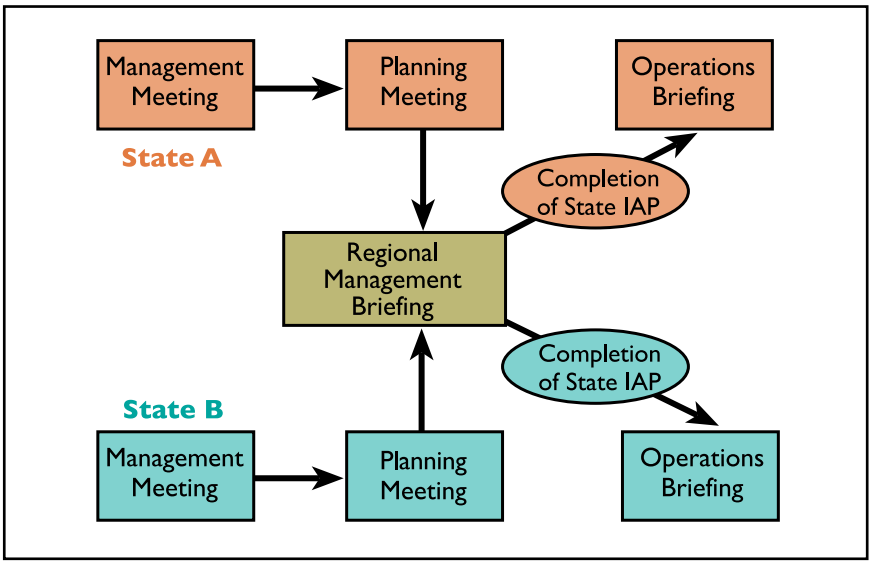
Public health and medical disciplines face a unique challenge because of the complexity and quantity of information that must be shared during a major response. This is compounded by the presence of multiple information outlets, many of which provide unofficial data. For example, media trying to "break" news stories may provide situation assessments that misrepresent the actual severity of an incident or the progress of response. Therefore, information that is shared between States should be channeled first through formal mechanisms at the State level (Tier 4) to verify its accuracy. This is commonly done by releasing all information through the State public health agency or the Multiagency Coordination Center or MACC (i.e., State EOC).

6.2.2 Incident Management Coordination

Because of State sovereignty, the management processes for interstate coordination (Tier 5) differ appreciably from those used to manage the intrastate response (Tier 4), especially when multiple states are affected simultaneously. There can be no single command authority to oversee

regional response and to promulgate incident objectives, strategy, and tactics. Instead, interstate regional response must rely on the *coordination* of State incident management and mutual aid. This is accomplished by comparing State IAPs and contingency or long-range plans while they are still in developmental phases. Regional management briefings between incident managers (conducted remotely via teleconference) could be held to ensure consistency in major strategic decisions and in the development of coordinated incident objectives and operational tactics (Figure 6-1).

Figure 6-1. Regional Management Coordination Between States



The key is to establish the regional management processes for interstate coordination during preparedness planning, and to develop the infrastructure required for coordination of incident planning under the stress of an actual incident. *Infrastructure in this sense includes not just interoperable communications and other equipment, but also legislative and regulatory parameters needed for responders to work seamlessly together across State borders.* Once established, these processes and infrastructure should be integrated into standard operating procedures.

6.2.3 Interstate Mutual Aid

Strategic mutual aid agreements between States address the "top-line" issues related to the transfer of materials, supplies, equipment, and personnel across State borders. Many of these issues are addressed through the EMAC guidance. Commonly listed strategic mutal aid guidelines include:

- ***Asset command and control:*** Requested emergency assets continue to operate under the command of their regular unit leaders. However, they receive direction on specific incident assignments (e.g., what they do and to whom the unit leaders report) from the emergency services authorities of the State receiving assistance.
- ***Professional competency:*** The State receiving assistance generally shall recognize a license, certificate, or other competency document issued by another State that indicates professional, or other qualifications.
- ***Liability:*** The State receiving assistance generally assumes liability for any act or omission, made in good faith, for the maintenance or use of any equipment or supplies rendered by emergency responders from another State. This does not include actions of willful misconduct, gross negligence, or recklessness.
- ***Worker compensation:*** States shall provide compensation and death benefits to injured emergency personnel or their designated representatives in the event such personnel are injured or killed while rendering aid in another State. This compensation shall be made in the same manner and on the same terms as if the injury or death were sustained within the person's home State.
- ***Reimbursement:*** The State receiving assistance shall reimburse the State donating aid for all costs and expenses incurred in answering a request for aid, including worker compensation.

As noted in Chapter 5, information contained in *strategic* mutual aid agreements guides the development of *tactical* mutual aid agreements between States. Tactical agreements provide the specific operational processes (the "nuts and bolts") for how mutual aid will occur during an actual response. Resource typing, as discussed in Chapter 5, is important for clarity in making and meeting mutual aid requests. Issues commonly addressed in tactical aid agreements include the following:

- Specific methods for aid requests and acceptance
- Mutual aid tracking mechanisms
- Tactical management of mutual aid assets
- Processes for licensure waivers
- Notification requirements to States when a mutual aid request is extended and when interstate mutual aid deployment occurs.

How these issues are addressed will vary from State to State; however, basic information that should be included in any request for assistance is highlighted in Exhibit 6-2.

Exhibit 6-2. Key Components of Mutual Aid Requests

- A description of the emergency service function for which assistance is needed, including but not limited to the following:
  - Fire services
  - Law enforcement
  - Emergency Medical Services (EMS)
  - Public health and medical services
  - Transportation
  - Communications
  - Public works and engineering
  - Building inspection
  - Planning and information assistance
  - Mass care
  - Resource suppor
  - Search and rescue.
- The amount and type of personnel, equipment, materials and supplies sought, and an estimate of the length of time they will be needed
- The specific place and time where the assisting State should provide the requested assets, as well as a point of contact at that location.

6.3 EMAC: A Model for Regional Coordination

The Emergency Management Assistance Compact (EMAC) is a congressionally ratified interstate mutual aid mechanism (Public Law 104-321) that is supported through legislation enacted by all 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. It provides a general framework (and legal basis) for interstate coordination and mutual aid during Governor-declared emergencies or disasters.[2] It also provides for interstate cooperation and resource sharing in emergency-related training, drills, and exercises. Important preparedness and response issues addressed in EMAC include the following:

- Review of State emergency plans and hazard vulnerability analyses
- Provisions for temporary suspension of any laws or ordinances
- Licensure and permit waivers for medical and other professionals
- Assumption of liability risk for donated personnel rendering aid
- Reimbursement for assistance (e.g., personnel, equipment, and supplies)
- Compensation for workers killed or injured while rendering aid
- Interstate evacuation of the civilian population.

EMAC was designed to apply only to the sharing of State resources and personnel. Therefore, coverage for such issues as professional licensure and liability risk applies only to State employees. Specific legislative or regulatory actions must be taken to address coverage of local government or private sector public health and medical personnel deployed to another State. For example, some States have enacted legislation allowing local government and private sector personnel to deploy as temporary State employees via EMAC during emergencies.

EMAC was a key mechanism used by States to deploy public health and medical personnel and resources following Hurricane Katrina. This was, in fact, the largest ever deployment through EMAC with an estimated 66,000 personnel (civilian and National Guard) deployed across all disciplines.[3] One of the key lessons learned from Hurricane Katrina was the need for specificity in requesting resources via EMAC (e.g., clearly delineating specific qualifications or training for personnel or teams). Healthcare resource typing as a national initiative is underway but incomplete. Thus, it is important to carefully describe the type of assistance being requested.

[2]Additional information on EMAC is available at: http://www.emacweb.org.

[3]EMAC Executive Briefing, August 16, 2006. Available at: http://www.emacweb.org/Dynamic/Search/Results.cfm (Accessed September 22, 2006).

Public health and medical planners should work closely with their State's EMAC coordinator to understand how EMAC is being implemented in their State. They should also be directly involved in establishing processes to ensure coordination of public health and medical assets obtained/deployed via EMAC in support of MSCC.

6.4 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident operations, as this is the focus of the MSCC Management System.

Background and Incident Description

- A large chemical factory that produces plastics resides in the far eastern corner of State Alpha. State Beta is adjacent to State Alpha and is "downwind" of State Alpha.
- An explosion occurs at the factory, starting a fire that is difficult to control. Victims are coughing and complaining of breathing difficulties.
- Large clouds of smoke, possibly containing combustion products, such as phosgene and other pulmonary irritants, are released into the atmosphere and carried downwind toward State Beta. The local fire service and a hazardous materials (HAZMAT) team respond to the scene.

Incident recognition at the State level occurs for State Alpha (where the explosion occurred) when the responding jurisdiction reports the findings of an initial HAZMAT scene survey to the State's Environmental Protection Agency (EPA) HAZMAT reporting center. State Alpha begins staffing its State EOC and notifies participating agencies that the State EOP is activated. The initial HAZMAT report forms the basis of State Alpha's notification of EOP activation.

For State Beta, incident recognition occurs when State Alpha's HAZMAT responders notify the fire service/HAZMAT team in the adjoining jurisdiction of State Beta using tactical channels established in preparedness planning. They decide that unified command should be set up to coordinate the evacuation of the at-risk population.

Notification/activation of the interstate response occurs through the aforementioned tactical coordination between local fire/HAZMAT units from State Alpha and State Beta. In addition, State Alpha directly notifies State Beta's Emergency Communications Center (ECC), which serves as the pre-event baseline operating entity for State Beta emergency management. State Beta immediately activates its State EOC and notifies participating agencies in its State EOP.

Mobilization of the interstate response occurs as State Alpha and State Beta activate and ramp up staffing at their respective State EOCs, and activate their State-level unified command teams.

Incident operations are characterized by initial reports from the affected jurisdiction in State Alpha of large numbers of respiratory injuries that have overwhelmed the local healthcare organization (HCO). Fortunately, this HCO is upwind of the area of concern and does not need to evacuate or consider sheltering in place. The HCO has activated its EOP and requested and received assistance from community medical providers, as well as from its mutual aid agreement with a hospital located ten miles away. The local MMRS plan is also activated and used to coordinate the metropolitan healthcare response.

State Alpha provides regular updates to State Beta's EOC regarding firefighters' progress in suppressing the fire and smoke, in determining the exact contents of the noxious smoke, and in plotting plume models as wind conditions at the scene change. In addition, State Alpha provides information to State Beta on the conditions of patients presenting at State Alpha hospitals, including symptoms correlated with positions where the victims were exposed. When State Beta requests to send its HAZMAT experts to the scene, State Alpha's EOC arranges for an escort from the fire marshal's office in State Alpha to facilitate scene evaluation by State Beta experts.

The heavily affected jurisdictions in State Alpha and State Beta decide to continue with a unified area command[4] to tactically manage joint issues caused by the smoke. State Alpha supports this initiative by supplying a command vehicle and medium-range communications equipment for use in the affected areas. This is closely coordinated with command staff in State Beta's EOC. Strategies and tactics, such as decisions to evacuate or shelter-in-place, are also coordinated between State Alpha and State Beta to avoid conflicting recommendations. Any differences are explained

[4] The definition of an Area Command (Unified Area Command) is provided in Appendix D.

to the public in simple terms to prevent confusion. Similarly, medical evaluation and treatment protocols for victims are coordinated with input from both States' public health agencies. As the situation improves, recommendations for repopulating evacuated areas or ending shelter-in-place are consistently developed and applied across State boundaries.

State Alpha requires additional assistance for the local hospital that is caring for the majority of incident victims. It is determined that healthcare assets in State Beta can actually provide the necessary help faster than assets that could be obtained through intrastate mutual aid. Therefore, State Alpha's EOC asks for assistance from State Beta for critical care personnel and ventilators. This is accomplished using protocols and procedures developed during preparedness planning (through MMRS and other initiatives) and based on EMAC authorities.

State Beta notifies its Medical Reserve Corps and hospitals near its border with State Alpha. The requested resources are located and dispatched. The strategic mutual aid agreement between State Alpha and State Beta provides for:

- Waiver of licensure and certification requirements in State Alpha for State Beta responders who are appropriately credentialed in State Beta
- Extension of liability coverage by State Alpha to State Beta for workers as long as they operate within their defined scope of practice
- Extension of worker compensation coverage by State Alpha to healthcare workers who respond from State Beta.

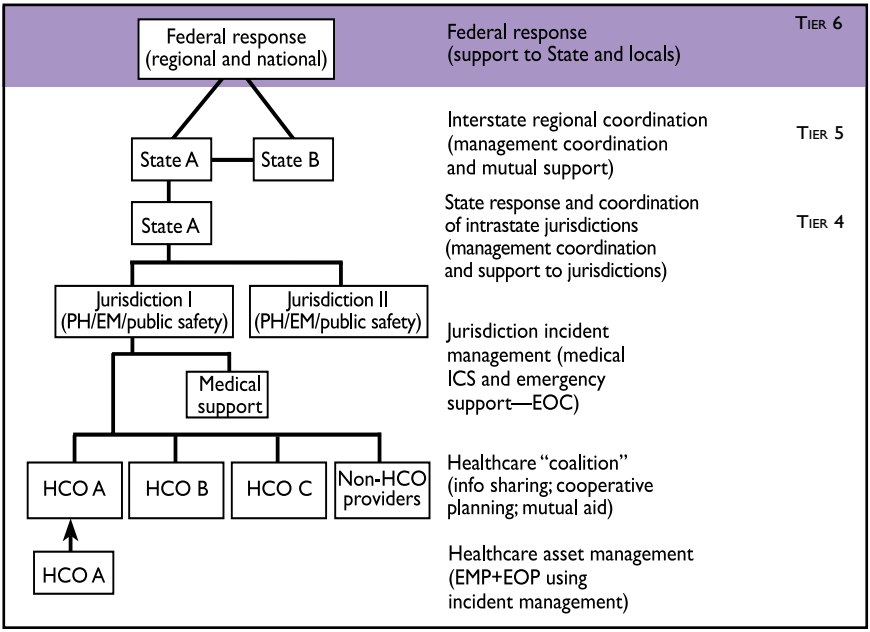
NOTES

NOTES

Chapter 7: Federal Support to State, Tribal, and Jurisdiction Management (Tier 6)

Contents

Federal Support to State, Tribal, and Jurisdiction Management (Tier 6)



Tier 6 consists of Federal public health and medical assets (e.g., supplies, equipment, facilities, and personnel) organized under Emergency Support Function (ESF) #8 of the National Response Plan (NRP). The U.S. Department of Health and Human Services (HHS) is the Primary Agency for ESF #8 and coordinates Federal public health and medical assistance in *support* of State, Tribal, and jurisdictional response efforts.[1]

[1] In the context of this handbook, *jurisdiction* refers to a geographic area's local government, which usually has the primary role in emergency response. A definition of local government is provided in Appendix D.

Key Points of the Chapter

The Federal Government may provide public health and medical assistance during an emergency or disaster under ESF #8 of the NRP. This assistance can be activated by a Presidential declaration of a major disaster or emergency, declaration of an Incident of National Significance by the Secretary of the Department of Homeland Security (DHS), or at the request of another Federal department or agency. HHS can also provide public health and medical assistance during an emergency or disaster under the independent authority of the Secretary of HHS.

The primary role of Federal resources in providing medical surge capacity and capability (MSCC) is to *support*, not supplant, State, Tribal, and jurisdictional response efforts. When the NRP is triggered by a Presidential declaration of a major disaster or emergency under the Stafford Act, Federal assistance generally is provided at the request of the Governor (or his/her designee) of an affected State. In a catastrophic event,[2] however, Federal assets may be mobilized and deployed to Federal installations in advance of a formal request for assistance. The Catastrophic Incident Supplement of the NRP establishes the policies, procedures, and mechanisms by which this may occur. The Federal Government closely coordinates this proactive mobilization with affected States, Tribal Nations, and jurisdictions.

On behalf of the Secretary of HHS, the Assistant Secretary for Preparedness and Response (ASPR) coordinates all aspects of Federal public health and medical assistance under ESF #8. The HHS Secretary's Operations Center (SOC) is the hub of information management and strategic-level command and control for ESF #8. During an emergency, the HHS Emergency Management Group (EMG) operates out of the SOC to coordinate the ESF #8 response. The ASPR may request that liaisons from the ESF #8 support agencies[3] and HHS Operating

[2] The NRP definition of a catastrophic event is provided in Appendix D.

[3] *ESF #8 support agencies are identified in the ESF #8 annex of the NRP.*

[4] HHS OPDIVs include the Centers for Disease Control and Prevention (CDC); Centers for Medicare and Medicaid Services (CMS); Food and Drug Administration (FDA); Indian Health Service (IHS); Health Resources and Services Administration (HRSA); Substance Abuse and Mental Health Services Administration (SAMHSA); National Institutes of Health (NIH); Agency for Healthcare Research and Quality (AHRQ); Administration for Children and Families (ACF); and Administration on Aging (AoA).

Divisions (OPDIVs)[4] be provided to the SOC to ensure a coordinated ESF #8 response. Similarly, HHS may provide liaisons to other Federal, State, Tribal, and jurisdictional Emergency Operations Centers (EOCs) to promote response coordination. The SOC also provides liaisons to appropriate Federal command and control posts identified in the NRP, such as the National Response Coordination Center or the National Operations Center.

The HHS Incident Response Coordination Team (IRCT), which is mobilized by the ASPR, coordinates all deployed ESF #8 assets. All field communications to the SOC flow through the IRCT, which is typically led by an HHS Regional Emergency Coordinator. The IRCT team leader is accountable for executing field activities for the ASPR. In a large-scale or complex incident, the Secretary of HHS may also deploy a Senior Health Official (SHO) to be his/her direct representative in the field. When deployed, the SHO is responsible for overarching coordination of deployed ESF #8 assets and provides guidance and leadership to the IRCT. The SHO serves as the senior-level ESF #8 liaison to State, Tribal, jurisdictional, and other Federal officials, including the DHS-appointed Principal Federal Official. The SHO operates at the strategic level and reports to the EMG. Typically, the SHO is part of the PFO Coordination Cell and coordinates with the IRCT leadership.

To promote an effective ESF #8 response, preparedness activities should examine and clearly delineate the processes for requesting, receiving, and managing Federal assistance. State, Tribal, and jurisdictional public health and medical planners must precisely determine their response capability, when they might need Federal support, how to develop and submit a request, and how they would integrate Federal assets into their incident command system.

7.1 The Role of the Federal Government in MSCC

Should incident needs severely challenge or exceed State, Tribal, and jurisdictional response capabilities, Federal resources may be called on to provide additional surge capacity and capability. When this occurs, Federal agencies and resources function in *support* of State, Tribal, and jurisdictional response efforts. When catastrophic events overwhelm State, Tribal, and jurisdictional response capabilities, Federal resources can be mobilized in advance of a formal request for assistance per the Catastrophic Incident Annex of the NRP; however, the proactive deployment of these resources is closely coordinated with affected State, Tribal, or local authorities.

The authority for Federal public health and medical response may come from a Presidential declaration of a major disaster or emergency (commonly known as a Stafford Act declaration), a declaration of an Incident of National Significance by the DHS Secretary, at the request of another Federal department or agency, or under the Public Health Service Act.

- ***Robert T. Stafford Disaster Relief and Emergency Assistance Act:*** At the request of the Governor of an affected State, the President may declare a major disaster or emergency if an event is beyond the combined response capabilities of the State, Tribal, and jurisdictional governments. Among other things, this declaration allows Federal assistance to be mobilized and directed in support of State, Tribal, and jurisdictional response efforts. Under the Stafford Act, the President can also declare an emergency without a Gubernatorial request if primary responsibility for response rests with the Federal Government because the emergency involves a subject area for which the United States exercises exclusive responsibility and authority.
- ***Incident of National Significance*:** The DHS Secretary, in consultation with other Federal departments and agencies, and the White House, as appropriate, may declare an Incident of National Significance.[5] With this declaration, the Secretary of DHS implements any or all of the applicable coordinating structures and processes described within the NRP, as required by the incident.

[5] The definition of an Incident of National Significance is provided in Appendix D.

- ***Public Health Service Act:*** The Secretary of HHS has the independent authority under section 319 of the Public Health Service (PHS) Act, as amended, to declare a public health emergency. Following a section 319 declaration, the Secretary can, among other things, take appropriate actions in response to the emergency, such as conducting and supporting investigations into the cause, treatment, or prevention of the disease or disorder. The Secretary can also waive certain Medicare and Medicaid requirements to ensure sufficient health care items and resources are available to individuals enrolled in Social Security Act programs. The Secretary may use his/her discretion in determining whether an event is of sufficient severity or magnitude to warrant such a declaration. The Secretary has other authorities under the PHS Act that can be exercised independent of a declaration. The Secretary can make and enforce regulations to prevent the introduction, transmission, or spread of communicable diseases into the U.S., or from one State or possession to another; deploy personnel from the U.S. Public Health Service (USPHS) Commissioned Corps in support of public health and medical operations; provide public health and medical services; and provide for the licensure of biological products.

Federal public health and medical assistance consists of medical materiel, personnel, and technical assistance. These resources may provide response capability for the triage, treatment, and transportation of victims or persons with special medical needs; evacuation of patients; infection control; mental health screening and counseling; environmental health services; and other emergency response needs. Exhibit 7-1 presents the full range of support available through ESF #8. A variety of Federal public health and medical assets may be provided, including the following:

- USPHS Commissioned Corps
- National Disaster Medical System (NDMS)
- Strategic National Stockpile (SNS)
- Federal Medical Stations (FMSs)
- Assets from the Department of Veterans Affairs (VA), the Department of Defense (DoD), and other Federal assets.
- Medical Reserve Corps

Exhibit 7-1. Functional Areas for Federal Public Health and Medical Support

ESF #8 involves supplemental assistance to State, Tribal, and jurisdictional governments in identifying and meeting the public health and medical needs of victims of major disasters or public health emergencies. This support is categorized in the following functional areas:

- Assessment of public health/medical needs
- Public health surveillance
- Medical care personnel
- Medical equipment and supplies
- Patient movement
- Hospital care
- Outpatient services
- Victim decontamination
- Safety and security of human drugs, biologics, medical devices, veterinary drugs, etc.
- Blood products and services
- Food safety and security
- Agriculture feed safety and security
- Worker health and safety
- All hazard consultation and technical assistance and support
- Mental health and substance abuse care
- Public health and medical information
- Vector control
- Potable water/wastewater and solid waste disposal, and other environmental health issues
- Victim identification/mortuary services
- Veterinary services.

In addition, the Federal Government may temporarily waive or modify certain normal requirements of Federal programs during a national emergency or disaster that is also a public health emergency to facilitate the delivery of public health and medical assistance. For example, Section 1135 of the Social Security Act authorizes the Secretary of HHS to temporarily waive or modify normal operating requirements of Medicare, Medicaid, or the State Children's Health Insurance Program (SCHIP) during a national emergency or disaster declared by the President that is also a public health emergency declared by the HHS Secretary (Exhibit

7-2). This action ensures that affected healthcare providers who are unable to comply with certain Federal requirements because of a national emergency or disaster that is also a public health emergency, but who operate in good faith, are given sufficient flexibilities to continue providing services to beneficiaries and receive reimbursement for those services.

Exhibit 7-2. Waiving Healthcare Requirements in Hurricane Katrina

One way the Federal Government facilitates the delivery of medical care and public health services during a major emergency or disaster is by temporarily waiving or modifying normal operating requirements of Federal programs. For example, during the response to Hurricane Katrina, the Secretary of HHS, pursuant to Section 1135 of the Social Security Act, waived the following requirements:*

- Certain conditions of participation, certification requirements, program participation or similar requirements, or pre-approval requirements for individual healthcare providers or types of healthcare providers, including, as applicable, a hospital or other provider of services, a physician or other healthcare practitioner or professional, a healthcare facility, or a supplier of healthcare items or services
- The requirement that physicians and other healthcare professionals hold licenses in the State in which they provide services, if they have a license from another State (and are not affirmatively barred from practice in that State or any State in the emergency area)
- Sanctions under Section 1867 of the Act (the Emergency Medical Treatment and Labor Act, or EMTALA) for the redirection of an individual to another location to receive a medical screening examination pursuant to a state emergency preparedness plan or transfer of an individual who has not been stabilized if the redirection or transfer arises out of hurricane-related emergency circumstances
- Limitations on payments under Section 1851(i) of the Act to permit Medicare Advantage enrollees to use out-of-network providers in an emergency situation
- Sanctions and penalties arising from noncompliance with the following provisions of the HIPAA privacy regulations:
  - The requirements to obtain a patient's agreement to speak with family members or friends or to honor a patient's request to opt out of the facility directory
  - The requirement to distribute a notice of privacy practices
  - The patient's right to request privacy restrictions or confidential communications.

The 1135 waiver typically ends with the termination of the emergency period, or 60 days from the date the waiver is first published unless the Secretary of HHS extends the waiver by notice for additional periods of up to 60 days. During Katrina, waivers for EMTALA and HIPAA requirements were in effect for a period not to exceed 72 hours from implementation of a hospital disaster protocol. The 1135 waiver applies only to Federal requirements and does not automatically apply to State requirements for licensure or conditions of participation.

*Department of Health and Human Services, *Waiver Under Section 1135 of the Social Security Act*, September4, 2005. Available at: http://www.hhs.gov/katrina/ssawaiver.html.

7.2 Federal Emergency Operations Plan

As required by Homeland Security Presidential Directive (HSPD)-5, the NRP establishes the structure and process for systematic, coordinated, and effective delivery of Federal assistance to augment State, Tribal, and jurisdictional response capabilities.[6] It describes Federal resources that are available to mitigate, prepare for, respond to, and recover from major emergencies and disasters. In addition, the NRP outlines the mechanisms for mobilizing and integrating Federal support. While the NRP is always in effect, its implementation is scalable and flexible to meet the unique operational and information sharing requirements of any major threat, disaster, and emergency, including acts of terrorism.

The types of direct Federal assistance that States, Tribal Nations, and jurisdictions may need, as well as the operations support required to sustain Federal response (e.g., transportation, communications), are organized in the NRP under ESF annexes. Each ESF is coordinated by a Primary Agency designated on the basis of its authorities, resources, and capabilities in a particular functional area. Federal public health and medical assistance is provided under ESF #8, and HHS serves as the Primary Agency to coordinate ESF #8 resources to fulfill the requirements identified by the affected State(s), Tribe(s), and jurisdictional authorities. HHS may also support other ESFs, most notably ESF #6—Mass Care, Housing, and Human Services.

[6] The NRP was originally published in December 2004; it was updated in May 2006 based on organizational changes in DHS and lessons learned from Hurricanes Katrina, Rita, and Wilma. At the time of this writing, the NRP is undergoing further revision. Readers are encouraged to visit the DHS Web site (http://www.dhs.gov) periodically for the latest updates to the NRP.

Pursuant to HSPD-5, the Secretary of DHS is responsible for the overall coordination of Federal resources under the NRP. During an event, the Secretary of DHS may designate a PFO to act as his/her representative in the field to oversee, coordinate, and execute Federal incident planning and response activities. The Secretary also relies on a host of multiagency coordinating structures at the Federal headquarters, regional, and field levels. These structures, some of which were recently modified in the May 2006 update of the NRP, include the following:[7]

- ***National Operations Center (NOC)*:** The NOC replaces the Homeland Security Operations Center (HSOC) as the central point for Federal incident management, interagency coordination, and information sharing. One of the key functional elements of the NOC is the National Response Coordination Center (NRCC), which coordinates the overall Federal response and recovery for Incidents of National Significance and emergency management program implementation.[8]
- ***Incident Management Planning Team (IMPT)*:** The IMPT provides contingency and crisis incident management planning in support of DHS national domestic incident mission requirements. It is composed of a core group of full-time senior planners who are assigned to the IMPT from interagency and DHS offices for a period of one year. In addition, there is pre-identified on-call staff to augment the IMPT core staff when required.
- ***Domestic Readiness Group (DRG):*** The White House convenes the DRG on a regular basis to develop and coordinate implementation of preparedness and response policy. The DRG is also convened in anticipation of or during crises such as natural disasters and domestic terrorists attacks to address issues that cannot be resolved at lower levels, and to provide strategic policy direction for the Federal response.

[7] Definitions of these multiagency structures are taken from: Department of Homeland Security, "Notice of Change to the National Response Plan," May 25, 2006. Readers are encouraged to access the NRP on the DHS Web site for more information.

[8] The NRCC is one of five sub-elements of the NOC; the other sub-elements include Interagency Watch, Information and Analysis Component; National Infrastructure Coordination Center; and Operational Planning Element.

- ***Regional Response Coordination Center (RRCC)*:** Within each of its regions, the DHS/Federal Emergency Management Agency (FEMA) may establish an RRCC to coordinate regional response efforts, establish Federal priorities, and implement local Federal program support until a Joint Field Office is established. The RRCC communicates with the affected State Emergency Operations Center (State EOC) and the NRCC, deploys teams to conduct initial damage assessments, and issues initial mission assignments.
- ***Joint Field Office (JFO)*:** The JFO is a temporary Federal facility established locally where Federal, State, Tribal, and local executives with responsibility for incident management coordinate, oversee, and direct prevention, preparedness, response, and recovery activities. It is organized according to the principles of the National Incident Management System (NIMS) around a JFO Coordination Group, as well as Operations, Planning, Logistics, and Administration/Finance Sections. The JFO Coordination Group may include a Principal Federal Official (PFO), designated by the DHS Secretary to be his/her representative locally to coordinate overall Federal incident management and assistance activities.
  - In the event of multiple incidents, or one incident with widespread implications (e.g., Hurricane Katrina), multiple JFOs may be established at the discretion of the Secretary of DHS.

The NRP is built upon the NIMS, which provides the core doctrine, terminology, and organizational processes for coordinated multidisciplinary and intergovernmental incident management. This includes uniform personnel qualifications and standards for equipment and communications. These concepts are necessary for interoperability

and compatibility. The NIMS management framework is applicable to all hazards regardless of cause, size, or complexity. The Incident Command System (ICS) is put forth by NIMS as the model for organizing and managing emergency personnel and resources during incident response.[9] The NIMS requires that field command and management functions be performed in accordance with standard ICS organizations, doctrine, and procedures.

7.3 Emergency Support Function #8

When incident needs challenge or exceed the medical or public health response capabilities of local, State, Tribal, or regional response assets, Federal public health and medical assistance may be made available under ESF #8 of the NRP. This support may be provided in response to a variety of public health and medical events, including the following:

- Natural and man-made disasters and public health and medical emergencies
- Terrorist threats or incidents using chemical, biological, nuclear/radiological, or large explosive devices
- Infectious disease outbreaks and pandemics
- Animal health emergencies, such as those in support of ESF #11 (e.g., Bovine Spongiform Encephalopathy, Hoof and Mouth Disease)
- Any other circumstance that creates an actual or potential public health or medical emergency where Federal assistance may be necessary.

[9] Appendix B describes ICS and its application to public health and medical disciplines.

The Pandemic and All Hazards Preparedness Act amended section 2801 of the PHS Act to state that the Secretary of HHS shall lead all Federal public health and medical response to public health emergencies and incidents covered by the NRP. Federal public health and medical assistance provided under ESF #8 of the NRP may be categorized according to the functional areas described below.

(1) Assessment of Public Health/Medical Needs: HHS, at the request of DHS, mobilizes and deploys ESF #8 personnel to support the Emergency Response Team-Advance (ERT-A)[10] to assess public health and medical needs. This function includes the assessment of the public healthcare system/facility infrastructure.

(2) Health Surveillance: HHS coordinates with State, Tribal, and jurisdictional officials to do the following:

(a) Establish surveillance systems to monitor the health of the general population and special high-risk populations

(b) Conduct field studies and investigations

(c) Monitor injury and disease patterns and potential disease outbreaks

(d) Provide technical assistance and consultations on disease and injury prevention and precautions.

(3) Medical Care Personnel:

(a) Medical response capabilities are provided by assets internal to HHS (e.g., USPHS Commissioned Corps, the National Disaster Medical System (NDMS)).

(b) DoD may be requested to provide support in casualty clearing/staging and other missions as needed.

(c) HHS may seek individual clinical health and medical care specialists from the VA to assist State, Tribal, and local personnel.

(4) Health/Medical Equipment and Supplies: HHS may request that agencies provide medical equipment and supplies, including Federal Medical Stations (FMSs) that provide low acuity medical care, pharmaceuticals, and biologic products (e.g., SNS), etc., in support of immediate medical response operations and for restocking healthcare facilities in an area.

[10] The DHS/FEMA-led ERT-A is the principal interagency group that conducts assessments and initiates coordination with the State and initial deployment of Federal resources.

(5) Patient Evacuation:

(a) HHS may request that DHS/FEMA and ESF #1 provide support to DoD for patient movement in the evacuation of seriously ill or injured patients from the affected area to locations where hospital care or outpatient services are available.

(b) DoD is responsible for regulating and tracking these patients to appropriate treatment facilities (e.g., NDMS non-Federal hospitals, VA hospitals, and DoD military treatment facilities).

(6) Patient Care: HHS may request available personnel to support in-hospital care and outpatient services for victims who become ill or injured.

(7) Safety and Security of Human Drugs, Biologics, Medical Devices, and Veterinary Drugs, etc.: HHS ensures the safety, efficacy, and security of regulated foods, human and veterinary drugs, biologics (including blood and vaccines), medical devices (including radiation emitting and screening devices), and other HHS regulated products.

(8) Food Safety and Security: HHS, in cooperation with ESF #11, ensures the safety and security of Federally regulated foods.

(9) Blood and Blood Products: HHS establishes and maintains contact with the American Association of Blood Banks Inter-organizational Task Force on Domestic Disasters and Acts of Terrorism[11] and, as necessary, its individual members, to determine:

(a) The need for blood, blood products, and the supplies used in their manufacture, testing, and storage

(b) The ability of existing supply chain resources to meet these needs

(c) Any emergency measures needed to augment or replenish existing supplies.

[11] Members of the Task Force include AdvaMed, American Association of Blood Banks, American Association of Tissue Banks, American Hospital Association, American Red Cross, America's Blood Centers, Armed Services Blood Program Office, Blood Centers of America, CDC, College of American Pathologists, FDA, Plasma Protein Therapeutics As-

(10) Agriculture Safety and Security: HHS, in coordination with ESF #11, ensures the safety and security of animal feed and therapeutics.

(11) Worker Health/Safety:

(a) HHS requests Department of Labor (DOL) assistance to coordinate responder and worker safety and health using processes detailed in the Worker Safety and Health Support Annex.

(b) HHS requests support, as needed, to assist in monitoring the health and well-being of emergency workers; performing field investigations and studies addressing worker health and safety issues; and providing technical assistance and consultation on worker health and safety measures and precautions.

(12) All-Hazard Consultation, Technical Assistance, and Support: HHS assesses public health and medical effects resulting from all hazards. Such tasks may include the following:

(a) Assessing exposures on the general population and on high-risk population groups

(b) Conducting field investigations, including collection and analysis of relevant samples

(c) Providing advice on protective actions related to direct human and animal exposures, and on indirect exposure through contaminated food, drugs, water supply, and other media

(d) Providing technical assistance and consultation on medical treatment and decontamination of injured/contaminated individuals.

(13) Behavioral Health Care:

(a) Assessing mental health and substance abuse needs

(b) Providing disaster mental health training materials for disaster workers

(c) Providing liaison with assessment, training, and program development activities undertaken by Federal, State, Tribal, and jurisdictional mental health and substance abuse officials

(d) Providing additional consultation, as needed.

(14) Public Health and Medical Information: HHS provides public health, disease, and injury prevention information that can be transmitted to members of the general public.

(15) Vector Control:

(a) Assessing the threat of vector-borne diseases

(b) Conducting field investigations, including the collection and laboratory analysis of relevant samples

(c) Providing vector control equipment and supplies

(d) Providing technical assistance and consultation on protective actions regarding vector-borne diseases

(e) Providing technical assistance and consultation on medical treatment of victims of vector-borne diseases.

(16) Potable Water/Wastewater and Solid Waste Disposal:

(a) Assessing potable water, wastewater, solid waste disposal issues, and other environmental health issues

(b) Conducting field investigations, including collection and laboratory analysis of relevant samples

(c) Providing water purification and wastewater/solid waste disposal equipment and supplies

(d) Providing technical assistance and consultation on potable water and wastewater/solid waste disposal issues.

(17) Victim Identification/Mortuary Services:

(a) Providing victim identification and mortuary services

(b) Establishing temporary morgue facilities

(c) Performing victim identification by fingerprint, forensic dental, and/or forensic pathology/anthropology methods

(d) Processing, preparation, and disposition of remains.

(18) Veterinary Services: HHS, in coordination with ESF #11, assists in delivering healthcare to injured or abandoned animals and performing veterinary preventive medicine activities, including conducting field investigations and providing technical assistance and consultation as required.

Medical Care Personnel is a key functional area of the ESF #8 response. The USPHS Commissioned Corps provides public health, humanitarian, and clinical services and personnel during an emergency, disaster, or other urgent public health need. Based on lessons learned from Hurricane Katrina, the USPHS adopted a tiered response posture of rapidly deployable, well-trained, and well-equipped teams. Exhibit 7-3 provides a brief description of the USPHS teams currently available. Other USPHS teams may be phased in across coming years as the USPHS continues to examine and enhance its response capability.

Exhibit 7-3. Overview of USPHS Commissioned Corps teams

- ***Rapid Deployment Force (RDF):*** The RDF consists of five pre-identified teams, each with 105 multidisciplinary staff. The teams serve on a rotating call basis, with the on-call team capable of deploying within 12 hours of notification. RDF teams have a built-in command structure and can provide mass care at shelters (including FMSs), staff Points of Distribution, and Casualty Collection Points. The RDF can also conduct community outreach and assessments, among other functions.
- ***Applied Public Health Team (APHT):*** The APHT is composed of experts in applied public health and can function as a "public health department in a box." An APHT can deploy within 36 hours of notification and provide assistance in public health assessments, environmental health, infrastructure integrity, food safety, vector control, epidemiology, and surveillance.
- ***Mental Health Team (MHT):*** The MHT consists of mental and behavioral health experts who assess stress and suicide risks within the affected population, manage responder stress, and provide therapy, counseling, and crisis intervention. The MHT can deploy within 36 hours of notification.

USPHS active duty officers who are not members of the aforementioned teams comprise supporting personnel who can deploy as teams or individuals within 72 hours of notification. Beyond the 72-hour mark, the USPHS Inactive Reserve Corps may be called on to augment the Active Duty Corps.

The National Disaster Medical System (NDMS) is another source of public health and medical personnel under ESF #8. The NDMS helps maintain our national capability to deliver quality medical care during domestic incidents that challenge or exceed normal medical capabilities or infrastructure in an affected area. NDM can provide assistance in three areas—field care, casualty evacuation, and definitive care—to support HHS under ESF #8 of the NRP (Exhibit 7-4).

Exhibit 7-4. Overview of NDMS teams

The NDMS is a nationwide partnership designed to deliver quality medical care to the victims of, and responders to, a domestic disaster. NDMS provides state-of-the-art medical care under any conditions at a disaster site, in transit from the impacted area, and into participating definitive care facilities. The main NDMS teams consist of the following:

- ***Disaster Medical Assistance Team (DMAT):*** DMATs provide primary and acute care, triage of mass casualties, initial resuscitation and stabilization, advanced life support and preparation of sick or injured for evacuation. The basic deployment configuration of a DMAT consists of 35 persons; it includes physicians, nurses, medical technicians, and ancillary support personnel. They can be mobile within 6 hours of notification and are capable of arriving at a disaster site within 48 hours. They can sustain operations for 72 hours without external support. DMATs are responsible for establishing an initial (electronic) medical record for each patient, including assigning patient unique identifiers in order to facilitate tracking throughout the NDMS.
- ***Disaster Mortuary Operational Response Team (DMORT):*** DMORTs work under the guidance of local authorities by providing technical assistance and personnel to recover, identify, and process deceased victims. Teams are composed of funeral directors, medical examiners, coroners, pathologists, forensic anthropologists, medical records technicians and transcribers, finger print specialists, forensic odontologists, dental assistants, x-ray technicians, and other personnel. HHS also maintains several Disaster Portable Morgue Units (DPMU)

that can be used by DMORTs to establish a stand-alone morgue operation.

- ***Veterinary Medical Assistance Team (VMAT):*** VMATs provide assistance in assessing the extent of disruption and need for veterinary services following major disasters or emergencies. These responsibilities include: Assessing the medical needs of animals, medical treatment and stabilization of animals, animal disease surveillance, zoonotic disease surveillance and public health assessments, technical assistance to assure food and water quality, and animal decontamination. Teams are composed of clinical veterinarians, veterinary pathologists, animal health technicians (veterinary technicians), microbiologist/virologists, epidemiologists, toxicologists and various scientific and support personnel. Deployment configurations depend on the nature and scope of the incident.
- ***National Medical Response Team (NMRT):*** NMRTs provide medical care following a nuclear, biological, and/or chemical incident. This team is capable of providing mass casualty decontamination, medical triage, and primary and secondary medical care to stabilize victims for transportation to tertiary care facilities in a hazardous material environment. The basic deployment configuration of an NMRT consists of 50 personnel.

Additional medical care personnel are available through ESF #8 support agencies, such as the VA and DoD, and through the Medical Reserve Corps. During Hurricanes Katrina and Rita, the VA and DoD played significant roles in supporting ESF #8 missions. The VA (both facilities and personnel) was prominently involved in the operation of FMSs, while the DoD supplied aircraft, equipment, and personnel to facilitate the evacuation of patients and persons with special medical needs to facilities where they could receive appropriate care.

The Federal Government can also provide public health and medical equipment to support local response efforts during a public health emergency or disaster. One such deployable asset is the FMS, which can be used as a healthcare platform for stable patients with low acuity or primary healthcare needs. Exhibit 7-5 provides a basic description of the FMS and its operating requirements.[12]

[12] Readers are encouraged to work with their regional emergency coordinators to learn more about the FMS and state/local responsibilities for its operations.

Exhibit 7-5: Federal Medical Station (FMS)

The FMS is an HHS deployable healthcare platform that can deliver large-scale primary healthcare services anywhere in the U.S. A team of approximately 100 personnel is needed to staff the FMS, with personnel provided primarily by the USPHS. Each FMS contains a three-day supply of medical and pharmaceutical resources to sustain 250 stable primary care based patients who require bedding services. Additional roles for the FMS may include the following:

- Mass ambulatory vaccination services (using vaccination inventory from the SNS)
- Ambulatory prophylactic medication administration (using medication inventory from the SNS)
- Pre-hospital triage and initial stabilization for up to 250 mass casualty patients.

The FMS must be housed inside a structurally intact building that has roughly 40,000 square feet of space, a 10-person set up team, electricity, heating, air conditioning, ventilation, and clean water services. Reduced bed requirements can be accommodated in smaller facilities. Other operational requirements include bathroom and showering facilities, billeting for staff, and contracted support for food, potable water, laundry, ice, medical oxygen filling, and biomedical waste disposal. The FMS requires 48-96 hours from the time of request to delivery inside the continental U.S. and a 12-hour assembly time.

To address primary healthcare service needs far forward in a disaster area, HHS has a community outreach capability ("Go Bag") that is a rapidly deployable light strike team-based platform. Staffed primarily by the USPHS, each platform has basic medical and pharmaceutical resources to sustain 50 to 100 stable primary care based ambulatory patients.

7.4 HHS Concept of Operations for ESF #8

As the Primary Agency for ESF #8, HHS has developed a Concept of Operations Plan (CONOPS) that provides the framework for its management of the public health and medical response to an emergency or disaster. The HHS CONOPS is consistent with HSPD-5 and the NRP, and implements strategies to ensure a unified approach to all mitigation, preparedness, response, and recovery activities carried out by HHS. On behalf of the Secretary of HHS, the ASPR directs and coordinates all Federal public health and medical assistance provided under ESF #8. The ASPR also acts as the senior-level HHS liaison to DHS and other Federal departments and agencies.

Strategic coordination of the ESF #8 response

The ASPR coordinates the Federal ESF #8 response through the HHS Emergency Management Group or EMG, which operates from the SOC at HHS headquarters in Washington, D.C. By definition, the EMG is always operational at a baseline level and in times of non-response, it maintains a surveillance and monitoring posture. When preparing for or responding to an incident, the ASPR may raise the staffing level of the EMG and begin operations out of the SOC. The EMG's organizational structure is based on ICS principles.

The SOC is the focal point for command and control, communications, specialized technologies, and information collection, assessment, analysis, and dissemination for all HHS components under non-emergency and emergency conditions to support a common operating picture. It is continuously staffed and maintains operations 24 hours a day, 7 days a week (24/7). Because the SOC is always operational, it can rapidly enhance its services and staffing during times of crisis. When not in an emergency response mode, the SOC performs continuing surveillance of the following:

- Public health data for special topics (e.g., West Nile virus, influenza activity)

- Reports from Regional Emergency Coordinators (RECs), HHS OPDIVS and other ESF #8 agencies that support State, Tribal, and jurisdictional incident management
- Media reports and other mass public information sources
- Natural disasters (e.g., earthquake activity, hurricanes).

Watch Officers in the SOC maintain daily contact with other Federal operations centers to ensure situational awareness. Reports of incidents with potential public health or medical consequences are provided to the Duty Officer, who then alerts HHS senior staff as necessary. Critical public health and medical requirements are brought to the attention of the ASPR. During an event, the ASPR may deploy HHS liaisons to other Federal EOCs.

In addition to the SOC, some HHS OPDIVs, such as the CDC, maintain EOCs to manage their own assets. The OPDIV EOCs can be activated separately from the SOC when involved in a small-scale or "routine" response that does not require HHS department-wide coordination. However, when an OPDIV EOC is activated (only the SOC and the Director's EOC or DEOC at the CDC are operational 24/7), the EOC must notify the SOC and provide status updates of activities. During a department-wide response, the OPDIV EOCs coordinate their operational information with the SOC to establish a common operating picture. During response operations, staffing the SOC with experts from the HHS OPDIVs and Federal partners enhances ESF #8 coordination.

Operational coordination of the ESF #8 response

At the field level, the IRCT acts as the Secretary's agent on scene under the direction of the EMG. The IRCT consists of 10 pre-identified teams, with 30 multidisciplinary staff on each. The teams serve on a rotating call basis, with the on-call team capable of deploying within 12 hours of notification. The IRCT has a built-in command structure and is responsible for directing all ESF #8 response assets in the field. The IRCT is scalable to meet the demands of the incident. The IRCT coordinates the activities of all Federal ESF #8 resources deployed to assist States, Tribal Nations, jurisdictions, and other Federal agencies (Exhibit 7-6). This includes teams deployed through HHS OPDIVs and the ESF #8 support agencies.

Exhibit 7-6. Key Roles of the IRCT

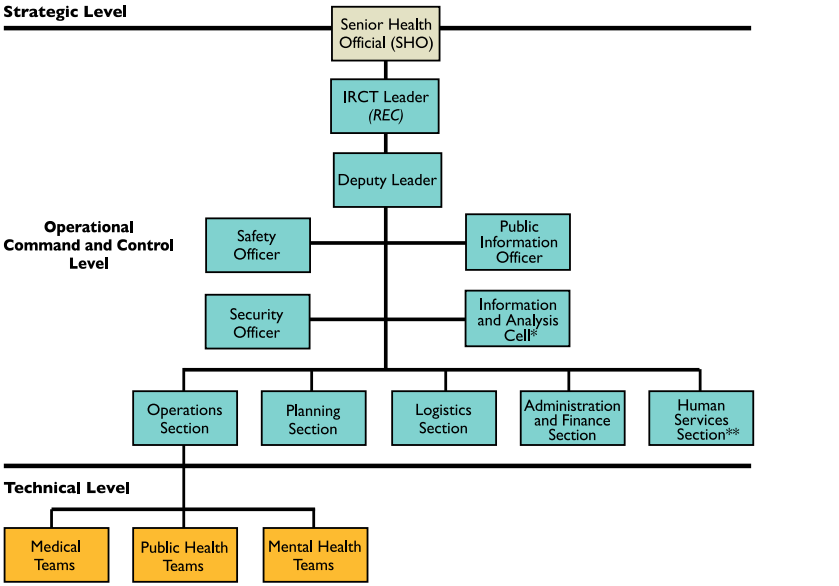
The IRCT is primarily responsible for supporting the public health and medical management of an incident. It does this by providing the field management component of the Federal public health and medical response. The IRCT is not designed to provide direct medical or mental-health care, decontamination, or public health services. Rather, the IRCT performs the following primary functions:

- Provides liaisons in the field to coordinate with jurisdictional, Tribal, or State incident management
- Provides the field management and coordination for deployed HHS and other ESF #8 assets to integrate those assets with the State and local response
- Assesses the requirements or potential needs for HHS and ESF #8 assistance
- Provides continuous assessment of the adequacy of the HHS and ESF #8 response to the Secretary through the ASPR
- Represents ESF #8 in the JFO and the RRCC
- Provides data management and information processing services for ESF #8. This includes the development of incident action plans and situational reports for the ESF #8 response
- Acts as the conduit for incident information exchange between the SOC and the field (via the IRCT Leader).

Consistent with NIMS, each IRCT has a team leader and other appropriate personnel to fill ICS positions (Figure 7-1).[13] The IRCT Leader typically is an HHS Regional Emergency Coordinator (see description below); however, the ASPR maintains the right to appoint another qualified person to fill this position. To better coordinate all ESF #8 response components, the IRCT has liaisons from HHS OPDIVs and ESF #8 support agencies to integrate all ESF #8 activities under a single ICS. Any team from an OPDIV or ESF #8 support agency (e.g., VA, DoD) that is deployed during a disaster must report to that agency's liaison at the IRCT.

[13] In the event of multiple incidents, or one incident with widespread implications (e.g., Hurricane Katrina), multiple IRCTs may be mobilized at the discretion of the ASPR.

Figure 7-1. IRCT Organizational Chart



* Depending on the incident, the IRCT may contain an Information and Analysis Cell designed to collect, analyze, and disseminate key information to the IRCT Leader. In traditional ICS, this function is typically carried out by staff in the Planning Section.

**Depending on the incident, the IRCT may add a Human Services function to coordinate HHS support for ESF #6.

During large-scale or complex incidents, the Secretary of HHS may also deploy a Senior Health Official (SHO) to serve as his/her direct representative in the field. The SHO is typically an Admiral from the USPHS Commissioned Corps. When deployed, the SHO is responsible for overarching coordination of deployed HHS resources and provides guidance and leadership to the IRCT. The SHO essentially acts as an Agency Executive, as described in ICS, to the IRCT. The SHO serves in the JFO Coordination Group as the principal ESF #8 liaison to the PFO and other senior Federal, State, Tribal, and jurisdictional officials.

HHS has a cadre of regionally based personnel who work with State and local authorities on a variety of public health and medical initiatives, including preparedness and response to major events. It is important for public health and medical planners to understand the roles of these regionally-based personnel and to establish working relationships with them during preparedness planning to facilitate Federal support in a crisis. Brief descriptions of key regional personnel are provided below

and their respective roles in preparedness, response, and recovery are summarized in Figure 7-2.

- ***Regional Director (RD)*:** An HHS political appointee at the regional level, the RD is the Secretary's regional representative and the primary spokesperson for HHS in his/her region, except in times of emergency. During normal daily operations, the RD reports pertinent information on regional issues and implications to HHS leadership. The RD promotes preparedness by coordinating regional resources through a Regional Advisory Council. During a response, the RD serves as the point of contact (POC) for elected officials and consults with an IRCT deployed to his/her region.
- ***Regional Health Administrator (RHA)*:** Oversees HHS public health programs at the regional level and coordinates with State Health Directors. The RHA builds relationships with State and local public health officials as well as other Federal departments in their region. During a response, the RHA may serve in a public health advisory role supporting the REC, and as a liaison to State Health Directors. The HHS Secretary may also call on the RHA to serve as the SHO, if needed.
- ***Regional Emergency Coordinator (REC):*** Leads the HHS regional preparedness effort in his/her region by working with medical and public health planners to determine precisely what their response capability is, when they might need to ask for Federal support, and how they would integrate Federal assets into their ICS. The REC also is the HHS lead for regional response and typically serves as the IRCT Leader.
- ***Regional Administrator (ACF):*** Serves as the liaison and advisor to the REC for coordination of Human Services (ESF #6) issues and participates in regional planning activities. During an event, the ACF RA assesses and coordinates the ACF response and provides a liaison to the IRCT.
- ***Senior Management Official (CDC):*** Represents CDC in the State health department and coordinates technical support to local and State public health agencies. During a response, the SMO advises the State on the effective use of CDC assets and provides technical assistance and guidance.

Figure 7-2. Roles of HHS Regional Personnel in Emergency Management

Position	Preparedness	Response	Recovery
RD: Sole political appointee in region	**SUPPORT** • Primary POC for elected officials	**SUPPORT** • Primary POC for elected officials	**LEAD** • Coordinates overall recovery efforts • Facilitates acquisition of necessary Federal resources
RHA: Principal public health authority	**SUPPORT** • Work with State Health Directors • Serves as a liaison for Assistant Secretary of Health to State health	**SUPPORT** • Serves in public health advisory role as requested and in support of the REC • Liaison with State Health Directors • May serve as SHO	**SUPPORT** • Facilitates recovery effort with State Health Directors • Maximize HHS investment in region
REC: Leads HHS regional efforts in emergency preparedness and response	**LEAD** • Regional lead for preparedness • Works will all State health officials and State emergency managers	**LEAD** • Lead for ESF #8 regional response • IRCT Team Leader	**SUPPORT** • POC for recovery but triages requests for support to the appropriate office
ACF RA: Human Services coordination	**SUPPORT** • Liaison and advisor to the REC • Participates in regional planning activities to plan for human service programs • ACF is responsible for HHS ESF#6 related activities	**SUPPORT** • Assesses and coordinates ACF response • Provides a liaison to the IRCT • Provides support to program recipients • ACF is responsible for HHS ESF#6 related activities	**SUPPORT** • Coordinates human services support • Recommends program areas which may need support during recovery • ACF is responsible for HHS ESF#6 related activities
SMO: Coordinates technical support from CDC to the States	**SUPPORT** • Works in the State health department and represents CDC	**SUPPORT** • Advises States on the use of CDC assets and provides technical assistance	**SUPPORT** • Advises States on the use of CDC assets and provides technical assistance
SHO: HHS Secretary's direct representative in the field during an event	**SUPPORT**	**SUPPORT** • Deploys as needed at direction of Secretary • Oversees IRCT field activities • Provides strategic level decision making and liaison between the PFO/FCO and HHS field activities	**SUPPORT**

The EMG deploys liaisons to field operations centers (e.g., JFO) to represent the Federal public health and medical response effort. Following the lessons learned from Hurricane Katrina, the JFO has been restructured along ICS lines, with ESF #8 liaisons within each ICS Section. The senior HHS liaison at the JFO is the SHO (if deployed).

The framework by which HHS responds to threats or public health emergencies is characterized by three general stages: notification and alert, deployment and operational management, and transition and disengagement. Each of these stages is described in detail below.

Notification and Alert

HHS learns about credible threats to the public's health, as well as potential or actual emergencies, from public health and emergency management authorities at all levels of government, disease surveillance systems, law enforcement agencies, intelligence channels, agricultural, industrial, and environmental agencies, and the media. The SOC is the notification point within HHS for public health threats and emergencies, and it should be contacted immediately (via established local to State to Federal communications channels) with any information regarding a threat or emergency.

Once notified, the SOC performs a series of pre-determined notifications within HHS, including the ASPR, the Secretary, the Deputy Secretary, and key members of the EMG staff. Depending on the nature of the incident, the ASPR may notify other senior Departmental officials, OPDIV EOCs or Heads, key Federal EOCs, and the relevant RHA, RD, and REC. As situational awareness is gained, the ASPR directs further actions, which may include activation of the EMG, which deploys liaisons to other Federal EOCs and/or places ESF #8 response teams or personnel on alert status.

The EMG also convenes an ESF #8 conference call to assess the situation and determine the appropriate actions. The EMG alerts pre-designated HHS personnel to represent ESF #8 on the following:

- National Response Coordination Center (NRCC)
- Regional Response Coordination Center (RRCC)
- Emergency Response Team – National (ERT-N)
- Emergency Response Team – Advance (ERT-A)
- Joint Field Office/Joint Information Center.

Deployment and Operational Management

The Secretary of HHS, through the ASPR and the ESF #8 EMG, directs the activation and deployment of ESF #8 assets in *support* of State, Tribal, or jurisdictional incident management. The EMG activates an IRCT as required to coordinate locally the activities of all deployed ESF #8 assets and to represent ESF #8 in interactions with the affected local, State, or regional response structure. If there are multiple incidents, or one incident with widespread implications, the EMG may deploy multiple IRCTs. As stated earlier, the Secretary may also deploy a SHO to serve as the senior ESF #8 advisor in the JFO Coordination Group and to provide overarching field-level guidance and leadership to the IRCT.

At the request of the EMG, HHS OPDIVs and ESF #8 support agencies provide liaisons to the SOC to ensure a common operating picture and a coordinated ESF #8 response. Similarly, HHS may be asked to provide liaisons to other operations centers. The SOC schedules video and/or audio conferences at regular intervals to facilitate communications between the different components of the ESF #8 response and affected State, Tribal, and local authorities.

During incident operations, HHS oversees and coordinates appropriate missions under ESF #8 in accordance with FEMA mission assignments (if the Stafford Act has been invoked). EMG staff review each mission assignment received from FEMA to determine the most appropriate resource to meet the identified need. In some cases this

may be an asset within HHS; in others, the EMG tasks its ESF #8 support agencies to provide the necessary resource(s). Through regular communications with the IRCT Leader, the EMG assesses the status of all ESF #8 mission assignments and anticipated future public health and medical needs.

Transition and Disengagement

The Secretary of HHS, through the ASPR, decides when to demobilize ESF #8 assets based on the successful completion of ESF #8 mission assignments and assessments of the overall public health and medical response. The demobilization of ESF #8 assets, including those from HHS OPDIVs and ESF #8 support agencies, is coordinated with the IRCT. With the demobilization of the IRCT, full responsibility for coordination with incident authorities transitions back to the regional staff and to any OPDIVs with regional assets stationed on a day-to-day basis in the region.

7.5 Integration with Other Tiers

Requests for Federal public health and medical support should specify the need for assistance, rather than ask for specific Federal assets. Thus, a key component of preparedness planning for emergency managers is determining the precise capabilities of the State, Tribal, and jurisdictional response systems, and establishing the process for recognizing when Federal public health and medical assistance may be indicated. Some basic considerations for preparedness planning are the following:

- What are the full public health and medical response capabilities for the State or Tribe (including such resources as community health centers, long-term care facilities, Tribal Hospitals, VA Hospitals, and intrastate/interstate mutual aid arrangements)?
- What types of hazard-generated demands can the response system handle? What demands may exceed the State or Tribe's resources (e.g., victims requiring isolation, casualties from an uncontrolled radiation release)?
- What criteria will be used to determine when the State or Tribal response system is severely challenged (i.e., when the need for Federal support arises)? How will the decision-making process occur, especially early in an event?

- What information or data will be necessary to define the specific requests for Federal assistance? How will this information be collected, collated, and analyzed at the State or Tribal level under the stress and time constraints of a large-scale or very unusual incident? Identifying the types of information that are important to convey when making a request for Federal assistance is an importance step of preparedness planning for State, Tribal, and jurisdictional emergency managers.

With a Stafford Act Declaration, the defined need for Federal assistance is transmitted via an Action Request Form (ARF) from the State EOC to the Operations Section within the DHS/FEMA JFO.[14] The ARF delineates who, what, where, when, and how much assistance is needed. Staff at the JFO reviews the eligibility of the ARF under the Stafford Act (i.e., is the need beyond the response capabilities of local, State, or Tribal authorities?) and, if it is eligible, converts the ARF into a mission assignment. The mission assignment is a work order by FEMA to a Federal agency that directs completion of a specific task. Depending on the need, FEMA will issue the mission assignment to the Primary Agency of the ESF with responsibility in that functional area. As the Primary Agency for ESF #8, HHS is issued mission assignments related to the provision of public health and medical assistance.[15] Once a mission assignment is issued, the EMG then determines, based on its internal resources and those of its OPDIVs and ESF #8 partners, the most appropriate way to accomplish the mission.

As Hurricane Katrina showed, the process for requesting and mobilizing Federal assistance can be time-consuming and cumbersome to meet urgent public health and medical needs in a disaster. HHS RECs have begun working with State public health and medical planners in their region to pre-identify areas where Federal public health and medical assistance will likely be necessary in an emergency or disaster. This may allow for the pre-scripting of common mission assignments so they can be issued quickly in a disaster. State public health and medical

[14] Prior to the establishment of a JFO, requests for Federal assistance should be made to the RRCC.

[15] Not all ESF #8 mission assignments are issued directly to HHS; for example, DoD is tasked directly by FEMA to support the evacuation of patients and persons with medical special needs from a disaster area. Though it is directly tasked, DoD coordinates all activities related to this mission assignment with HHS.

planners should work with their respective RECs to define areas where pre-scripted mission assignments may be warranted.

In the event that public health and medical assistance is activated under ESF #8, Federal resources will be tactically integrated into the appropriate State, Tribal, or jurisdictional ICS. This is essential because Federal assets are meant to *support* State, Tribal, and jurisdictional response efforts, not supplant them. To facilitate integration, Federal response teams should be briefed on how an emergency response is being managed at the State, Tribal, or jurisdictional level (where the primary incident management is occurring, who the lead management authority is, etc.).

On behalf of ESF #8, the IRCT receives tactical direction (e.g., instructions on where to report) from the appropriate State, Tribal, or jurisdictional authorities. Before Federal ESF #8 assets arrive on scene, a primary point of contact or liaison should be established. This may be the State's senior public health official or his/her designee. For State public health and medical planners, other critical preparedness planning considerations include the following:

- Where will Federal support be staged and operate once it is committed to the State, Tribal, or jurisdictional incident response?[16]
- What processes are in place to integrate external assets into State, Tribal, or jurisdictional incident management?
- If the SNS is activated, is there an SNS plan in place that addresses:
  - How the SNS will be broken down once it arrives?
  - What priority system will be used to dispense SNS assets (e.g., elected officials, first responders, family members of first responders)?
  - How will the SNS be distributed to the public? If distribution centers have been established, how will the assets get there?
  - How will personnel responsible for distributing SNS get to the distribution centers? Have alternate plans been established?

[16] Federal assets deployed in anticipation of need are commonly "staged" on Federal property, such as military bases, prior to being assigned to State, Tribal, or jurisdictional management.

- If an FMS is activated, how will it be coordinated with the overall State and/or jurisdictional public health and medical response?
  - Have existing structures been identified to house FMSs?
  - Is there a protocol or mechanism available to provide operations support to the FMS?
  - How will patients be transported to an FMS and/or back to their primary area of residence?

Although Federal ESF #8 response teams will coordinate with State, Tribal, and jurisdictional incident management on tactical issues, the EMG, as directed by the ASPR, provides overall strategic direction to the IRCT Leader. The coordination of incident planning and response activities among Federal agencies occurs at the JFO.

7.6 Illustrative Example

The following example demonstrates how the concepts presented in this chapter may be applied during an actual incident response. The various phases of response (as described in Chapter 1) highlight when critical actions should occur; however, the example extends only as far as incident operations, as this is the focus of the MSCC Management System.

Background and Incident Description

- A large, 7.0-magnitude earthquake occurs, with the epicenter near a metropolitan area on the New Madrid Fault in the central United States.
- The earthquake occurs at dusk. Widespread loss of electrical power in the affected area limits the effectiveness of aerial flyovers for initial assessment. Early reports indicate that multiple cities and towns across the region are severely affected, with hundreds of structures reported to be collapsed, partially collapsed, or unusable.
- Initial reports indicate that hundreds of people may be dead.

Given the severity of the event, the early response stages unfold fairly rapidly as follows:

- **Incident recognition** at the Federal level occurs almost immediately, as the REC in the affected area rapidly contacts the SOC Watch Officer to report that a major earthquake has occurred. The SOC is also notified of the event from the DHS NOC. At the same time, the SOC Watch Officer receives initial media reports from national news agencies describing the incident. It becomes immediately obvious that Federal public health and medical assistance are indicated.
  - The SOC immediately notifies the ASPR, who alerts the Secretary of HHS. The ASPR activates the EMG, which establishes operations in the SOC, and notifies and briefs senior managers at HHS headquarters and at the OPDIVs.
- **Notification/activation** of Federal public health and medical assistance occurs in anticipation of the Governor's request for a Presidential disaster declaration and implementation of the Stafford Act (in accordance with the Catastrophic Incident Annex of the NRP). An IRCT and RDF are placed on alert and prepare for deployment to the affected area. In addition, HHS convenes a call with ESF #8 support agencies to discuss the situation and possible assets that may be needed to provide public health and medical assistance.

  Meanwhile, the REC establishes contact with local public health and medical officials, and the RD establishes contact with elected officials of the affected States, Tribal Nations, and jurisdictions. This initiates the process for potential Federal public health and medical assistance under ESF #8 once a disaster declaration is made and specific missions have been authorized. HHS also deploys personnel on the ERT-A to gain better situational awareness of potential public health and medical needs.

- **Mobilization** at the national level is marked by an increase in staffing at the SOC, and by the deployment of HHS liaisons to staff other Federal operations centers, such as the DHS NOC and FEMA NRCC. In addition, the EMG deploys an IRCT and RDF to the disaster area. As the presumptive IRCT Leader, the REC begins the initial assessment of public health and medical needs and relays this information to the EMG. In addition, the Secretary of HHS

appoints a SHO to serve in the JFO Coordination Group, once it is established.

- RHA and regional ESF #8 staff coordinates with DHS through the EMG.
- REC reports to the RRCC to begin coordinating requests for public health and medical assistance.
- HHS OPDIVs and ESF #8 support agencies mobilize their EOCs, enhance staffing, and provide liaisons to the SOC to coordinate response activities.
- In anticipation of requests for Federal public health and medical assistance, ESF #8 assets are forward deployed to mobilization centers on Federal property.

Incident operations activities are closely coordinated among jurisdictional, State, Tribal, and Federal officials. A JFO is established locally to bring together all key Federal, State, and jurisdictional stakeholders with incident management responsibility. Once on scene, the IRCT integrates into the JFO and the IRCT Leader coordinates all Federal ESF #8 resources that have been deployed. The IRCT Leader interacts with the State public health official(s) and emergency managers at the State EOC and relays information back to the SOC for accurate real-time situational awareness. The State EOC has activated its preplanned procedure for centralizing requests for public health and medical assistance from jurisdictional and State authorities and determines whether requests can be met using State resources or assets immediately available through mutual aid arrangements with neighboring States.

Once it is determined that Federal assistance for resources or assets is indicated, the State submits the request to the DHS request process through the JFO. Once the JFO has the request, DHS/FEMA distributes a mission assignment to the Primary Agency of the appropriate ESF. For public health and medical requests (ESF #8), HHS is tasked and has the responsibility to fulfill the mission assignment in coordination with its OPDIVs and ESF #8 support agencies.

The IRCT Leader provides situation reports to the EMG on a regular schedule, and all HHS response actions at the scene are coordinated with the EMG and other Federal operation centers (e.g., JFO, NOC-NRCC).

Based on information contained in these situation reports, the ASPR, on behalf of the Secretary, coordinates the following ESF #8 functions:

- Coordinates the deployment of immediate medical care (e.g., NDMS and USPHS Commissioned Corps) to help provide required public health and medical services in heavily affected communities
- Coordinates the deployment of FMSs to serve low acuity patients and persons with special medical needs
- Coordinates patient movement with DoD and the VA
- Coordinates with the Medical Reserve Corps to support personnel requirements
- Deploys healthcare personnel from the USPHS Commissioned Corps and NDMS to support hospitals that are short-staffed
- Engages with HRSA to assist in evaluating affected Community Health Centers
- Deploys experts from FDA to provide consultation regarding safe feeding of displaced populations
- Tasks CDC to provide technical assistance on injury prevention and public health missions
- Tasks CDC to assist in monitoring the health of emergency workers, and to provide technical assistance on worker health and safety measures and precautions
- Tasks CMS to assist in monitoring and enforcing or waiving/suspending HCF regulations
- Tasks SAMHSA to assist in providing mental health crisis counseling
- Tasks IHS and other relevant Federal agencies to assess potable water and waste-water/solid waste disposal issues resulting from loss of power and water utilities.

The HHS Assistant Secretary of Public Affairs collaborates with the DHS Public Affairs Office on all public affairs aspects of the response. Public affairs response teams are deployed to address media inquiries, to develop public information materials, and to provide public information liaison officers to the IRCT and to other Federal operations centers. The primary Joint Information Center (JIC), established in support of the NRP, provides general health and medical information to the public after consultation with HHS.

NOTES

NOTES

NOTES

Chapter 8: Implementation, Training, and System Evaluation

Contents

[This page left intentionally blank]

Key Points of the Chapter

The concepts presented in the MSCC Management System are designed to complement ongoing initiatives to establish individual components of medical surge, such as identifying pools of qualified healthcare personnel. This handbook provides the management processes necessary to enhance coordination and integration of these components. Implementation of these concepts should take full advantage of the assets and processes already in place to address medical surge. Important areas of focus for implementation strategies include:

- **Management of Individual Healthcare Assets (Tier 1):** Develop processes in the healthcare organization (HCO) Emergency Operations Plan (EOP) that promote effective internal management of the HCO response and information management. This will significantly enhance the ability of HCOs to coordinate with one another and to integrate into the larger community response.
- **Management of the Healthcare Coalition (Tier 2):** Establish processes for cooperative planning and information sharing among HCOs that can be used in times of crisis, as well as during day-to-day operations. To the extent possible, standardize requirements so that HCOs know what to report, when to report, in what format, and to whom. Establish or revise mutual aid agreements that formally describe processes for requesting, receiving, and managing mutual aid support.
- **Jurisdiction Incident Management (Tier 3):** Bring together representatives of the various emergency response entities, including acute-care medicine and public health, to participate in joint planning. Determine how event notification, unified incident command, and information management will occur across the response system. Ensure that processes are in place so public health and medical input can be provided into unified incident command. The Hospital Preparedness Program and MMRS Program guidance may be of assistance.
- **Management of the State Response (Tier 4):** Determine critical information requirements for coordinating intrastate jurisdictions and specify how State primary incident command will occur when necessary. Conduct an inventory and assessment of existing mutual aid agreements and determine how they can be enhanced to specifically address public health and medical issues.

- **Interstate Regional Management Coordination (Tier 5):** Establish interstate mutual aid arrangements that address medical and public health needs. Determine critical information requirements and how information will be shared across State borders. Identify points of contact in neighboring States and formally establish processes for requesting, receiving, and managing support. Where possible, integrate these arrangements into the regulations and processes that maintain the State's Emergency Management Assistance Compact. The MMRS Program guidance may be of assistance in coordinating interstate regional preparedness response in a major metropolitan area.
- **Federal Support to State, Tribal, and Jurisdiction Management (Tier 6):** Establish processes to gather Statewide information, evaluate response capabilities, and to determine the need for Federal public health and medical assistance. Understand how Federal public health and medical resources are organized, how they are activated and where they come from, and establish processes to facilitate integration of Federal assets at the State and local levels.

Once the concepts of the MSCC Management System are implemented, responder training should examine how they are applied within tiers and across tiers to shape the overall response system. Training sessions should include representatives from each of the major organizations involved in mass casualty or mass effect incident response. The training may be structured in stages of varying complexity and difficulty so that participants of similar knowledge level and experience can learn together. Both didactic instruction and drills might be used to maximize comprehension and retention of key concepts. Trainers should have significant experience and demonstrated expertise in large-scale incident response, and they should be able to motivate people from diverse professions to work together.

The lack of system change after thorough incident review has been a major challenge for all response entities from the local to the Federal levels. To achieve and maintain effectiveness, the response system must continually evolve to incorporate best-demonstrated practices identified through exercises or after-action report processes. A mechanism should be built into the system to provide feedback on ways to address

deficiencies. In all after-action analyses, input from medical and public health disciplines should be sought and incorporated with the recommendations of other disciplines. Findings must then be translated into organizational learning, where improvement in processes, procedures, training, equipment and supplies, EOP guidance, or other areas will create lasting organizational learning rather than the less permanent "lessons learned."

8.1 Implementation Strategies

The concepts described in the MSCC Management System present an overall strategy for defining cohesive management and operational relationships for the diverse and often disparate entities that collaborate to provide MSCC. The MSCC Management System does not require an all-or-nothing approach; it may be partially implemented or fully implemented, but in a stepwise fashion over time. It is meant to complement ongoing initiatives that establish individual components of MSCC, such as identifying pools of qualified personnel, pharmaceutical and equipment caches, plans for medication-dispensing stations, plans for alternative care sites, and enhancements to laboratory capabilities. In addition, the MSCC Management System can serve as a comparison tool when assessing and revising current programs and plans, as a tool for planning and evaluating exercises, or even as a metric for conducting incident after-action review and analysis.

The concepts described in this handbook should be incorporated with existing assets and processes to limit the amount of new infrastructure that must be developed. Therefore, implementation efforts should focus first on evaluating established Emergency Management Programs (EMPs) and Emergency Operations Plans (EOPs) within individual tiers. If systems already in place meet the objectives of the MSCC Management System but operate differently than presented here, they most likely do not require change. If deficits are detected, this document could suggest where revisions to the system (rather than replacement) might enable the system to integrate more effectively into the overall response.

8.1.1 Management of Individual Healthcare Assets (Tier 1)

The Centers for Medicare and Medicaid Services (CMS), State survey agencies, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and other accrediting agencies require all HCOs (hospitals, integrated healthcare systems, nursing homes or other skilled nursing facilities, hospices, etc.) to have individual EOPs.[1] As stated in Chapter 2, excellent models already exist that describe how HCOs can organize internally to respond to extreme events. Tier 1 focuses on the internal HCO processes that enhance external integration with other HCOs (Tier 2) and with jurisdictional assets (Tier 3). Persons reviewing existing HCO EOPs or developing new ones should consider the following major issues in applying MSCC concepts to their facility:

- ***Management of the HCO response:*** Review the qualifications and training of personnel expected to lead HCO efforts during a major response. These personnel must understand the full range of internal resources available during response and how to organize and manage the HCO effort to maximize integration with external assets. In addition, the HCO EOP should outline the steps necessary to institute a proactive management model, driven by action planning, during the early stages of response. This promotes internal HCO organization and information exchange with other entities.
- ***Information management:*** Establish quick, reliable, and redundant methods for sharing incident information. This will help link HCOs with other acute-care medical assets (Tier 2) and with the larger jurisdiction response (Tier 3). It is important not only to establish the modes of communication that will be used, but also to identify the *type* of information required for a coordinated response. Examinations of HCO procedures for obtaining and conveying incident information should be reviewed to determine:
  - What internal linkages are necessary to ensure that initial survey data and ongoing incident information can be rapidly provided to internal HCO operations? Establishing a method for frequent situation assessments and, resource status reports across the range of assets within the HCO is invaluable for incident management.

[1]In past guidance, JCAHO referred to emergency operations plans as "emergency management plans."

- What mechanisms can be instituted to track patients internally during incidents of sudden surge, so that it can be quickly determined which patients are, or definitely *are not*, receiving care at the facility?
- What external linkages need to be made to facilitate information exchange with other medical assets, both in terms of providing data and soliciting information during a crisis?
- What types of information are appropriate to share externally during response and, therefore, can be formatted into an HCO incident action plan?

To the maximum extent possible, these efforts should be standardized across jurisdictional HCOs through Tier 2 mechanisms. Smaller entities that provide hands-on care in the community (community health centers, neighborhood outpatient clinics, nursing homes or other skilled nursing facilities, private physician offices, etc.) should not be neglected in preparedness efforts. Presenting methods for participation (as described in Chapter 2) to individual practitioners and smaller HCOs may greatly enhance their participation in major response efforts.

8.1.2 Management of the Healthcare Coalition (Tier 2)

HCOs are increasingly engaged in joint-planning efforts, particularly as they participate in Federally-funded bioterrorism preparedness initiatives.[2] Moreover, many localities already have established operational interaction between HCOs to monitor emergency department and critical care capacity, ambulance diversion, and other everyday situations. These activities provide an ideal opportunity for HCOs to come together to discuss and plan for coordinating major medical response.

Key issues to consider when implementing Tier 2 concepts include:

- Is there an organizational structure in place that allows HCOs to collaborate in a non-competitive environment? This organizational structure may be a local hospital association, local medical society, or local/regional EMS council.

[2]Information on the Hospital Preparedness Program (HPP) is available at http://www.hhs.gov/aspr/opeo/hpp/.

- Are mechanisms available that allow HCO managers to interact with one another in time of need, as well as during day-to-day operations? Current processes and systems should be reviewed for their ability to support this interaction. Hospital communication centers established for private patient transport, or as EMS command centers for a jurisdiction, may be expanded or adapted to fulfill this requirement.
- Have communication and information management processes been standardized among Tier 2 coalition members, including formats for recording data? Consideration should be given not only to technology needs, but also to the methods that will be used to facilitate consensus decision-making.
- Do existing tactical mutual aid arrangements among HCOs clearly establish the processes for requesting, receiving, and managing mutual aid support? An initial assessment may be needed to inventory and evaluate support mechanisms that already exist, and to determine how to prioritize new efforts to maximize MSCC. Consideration of such issues as staff credentialing, liability coverage, worker compensation, and reimbursement mechanisms is critical.

8.1.3 Jurisdiction Incident Management (Tier 3)

Implementation of MSCC concepts at the jurisdictional level should follow a process in which representatives of various response disciplines (including public health and acute-care medicine) assemble to examine how to improve the delivery of public health and medical care during extreme events. The process should examine specific questions, such as:

- How will the various response entities notify one another of an impending or occurring event?
- What critical information should be included in the initial notification messages?
- How will response entities establish jurisdictional incident management for the wide range of events that may potentially result in human casualties?

- How will response entities organize and interact with one another during a response, and how will the input of individual agencies be given to the lead management agency?
- How will representatives of the medical community (traditionally private sector) provide input into the unified command or UC (e.g., through a designated position in a unified command team, a senior advisory role, or some other mechanism)?
- What critical information should be shared among response entities? How will needs be addressed, while including such private-sector entities as hospitals and clinician offices?
- What type of support from the jurisdiction's non-medical entities may be needed to enhance the ability of public health and medical assets to provide MSCC?
- What critical demobilization issues are there for HCOs?
- How can representatives of the healthcare community be included in after-action analyses?

Initiatives undertaken to address these questions should use currently available assets and processes to enhance operational relationships. For example, most jurisdictions have 911 emergency communication centers (ECCs) for everyday emergency services. The ECC may be adapted to perform the notification and early planning function for the jurisdiction's (Tier 3) EOP until this can be established at the Incident Command Post (ICP). In addition, the ECC and its paging/messaging services can provide initial notification to on-call representatives of the UC and be used for the early teleconference that initiates unified incident planning.

Examinations of the jurisdictional (Tier 3) response system should focus on identifying processes that promote unified incident command. Exhibit 8-1 outlines a series of basic steps that can be followed to incorporate UC processes into the jurisdictional EOP. In addition, each response entity should be assessed for its ability to integrate into the system. Assets that do not reach a threshold of desired management capability (e.g., effective incident information processing, incident planning, and informed decision-making) should be prioritized for improvement through jurisdiction EMP actions.

Exhibit 8-1. Unified Command Process in the Tier 3 EOP

The following is a general guide for establishing unified incident command techniques in the jurisdiction's EOP.

1. Review the jurisdiction's hazard vulnerability analysis (HVA) to identify key management needs for all identified hazards.
2. Identify agencies that repeatedly are included in the list of key management needs and designate these agencies as standard participants in UC.
3. Identify other organizations that might be called on for management input during specific incidents (e.g., public school system for a foodborne outbreak in a school cafeteria). A decision support tool should be established to determine which agencies should be included as UC participants for specific events.
4. Identify the lead agency for each type of hazard (recognizing that the lead may shift by response stage and by incident issue).
5. Define how the UC will come together during response, whether physically or via remote teleconference.
6. Define how transition of lead authority in the UC will occur as indicated during a response.
7. Define the incident planning capability for the UC (who will plan and how). This position is the Planning Section Chief and conducts management and planning meetings, operations briefings, and situation updates.
8. Define the site where the ICP will be located, if it is not defined by a hazard scene.
9. Define how the site and capability for UC will be established if the ICP is scene-defined. For example, if the designated lead agency in the UC has a command vehicle, this may become the ICP during field response.
10. Define the process for action planning in the UC. What critical information will be required from both public and private sectors, and what time frames (i.e., planning cycles and operational periods) periods could potentially be used?
11. Define how information management functions will be integrated between the various response entities in a jurisdiction.
12. Define the demobilization requirements for UC, including whether agencies can decrease their participation in UC as objectives are met (and, if so, how this will be accomplished).
13. Define methodology, participants, and responsibilities for conducting after-action analyses.

8.1.4 Management of State Response and Coordination of Intrastate Jurisdictions (Tier 4)

A starting point for implementing State level MSCC is to establish the management processes that would occur if the State were to assume primary incident command responsibility. Preparedness activities should examine how State public health and medical assets would be incorporated into UC, and how State managers would interact with jurisdictional (Tier 3) response entities.

The State must examine critical information requirements to coordinate intrastate jurisdictions:

- What type of information and/or data will be important for the State to obtain from jurisdictional incident management (Tier 3)?
- How will this information/data be obtained from jurisdictions, and how will it be collated and analyzed at the State level?
- Have standardized formats for reporting incident information/data (including situation assessments and resource status reports) been developed and provided to jurisdictional management?
- Are procedures in place, and does the infrastructure capability exist, to facilitate rapid dissemination of aggregate information/data back to local jurisdictions?

Other important implementation tasks include conducting an inventory and assessment of existing tactical mutual aid arrangements. These plans should be reviewed to determine possible ways to address the medical (e.g., licensure, liability) and financial (e.g., lack of guaranteed reimbursement) barriers for private HCOs that provide mutual aid services. State level incident management systems that do not incorporate the private medical sector should consider adopting a healthcare coalition (Tier 2) function to address the concerns of HCOs. Recognizing medical and health assets (Tier 1) as crucial players in public safety emergency response may promote their participation in an incident command system. It may also promote an understanding by State officials of the specific requirements of medical and health assets.

8.1.5 Interstate Regional Management Coordination (Tier 5)

Activities to improve interstate regional management coordination should focus on expanding current initiatives to better address MSCC in the private health and medical sector. Processes should specify key information requirements, explain how data will be shared between States, and identify key points of contact at the State level and their counterparts in neighboring States. The organization of State incident command (Tier 4) should be shared between partner States to enhance coordination of management activities, such as the exchange of incident action plans and support plans.

Examinations of strategic, or "master," mutual aid guidelines should ensure that key "top-line" issues for medical and public health entities have been addressed. Important issues include licensing, liability coverage, and worker's compensation for out-of-State healthcare personnel, as well as reimbursement mechanisms for medical and public health assets. Tactical mutual aid agreements may provide the specific methods for requesting, receiving, and managing interstate mutual aid, transporting and distributing assets, and demobilizing public health and medical resources. Preparedness activities should examine Emergency Management Assistance Compact (EMAC) legislation and regulations to ensure that public health and medical requirements for MSCC are adequately addressed.

8.1.6 Federal Support to State, Tribal, and Jurisdiction Management (Tier 6)

Because of significant changes in the Federal response system following 9/11 and, more recently, Hurricane Katrina, State emergency planners should review and understand the Federal response capability, how Federal public health and medical assistance may be obtained, and under what authority it may be activated. The State and jurisdictional EMP should determine what their own response capabilities are (i.e., what can the system handle, and what can it definitely *not* handle), and identify what types of information will be critical in demonstrating the need for Federal assistance. Before an emergency or disaster occurs, State and local response systems must identify the criteria they will use to determine that

their system has reached capacity and that additional support, through mutual aid or Federal assistance, is necessary.

States and local jurisdictions should also have operational plans (within their EOP) describing how Federal resources (personnel, supplies, equipment, or facilities) will be integrated into the State and local response effort. Among other issues, it is important to consider:

- Where will Federal public health and medical assets be staged upon arrival?
- To whom will Federal personnel report for tactical direction?
- How will State emergency management (usually located at the State EOC) interact with HHS Regional Emergency Coordinators (RECs) and accommodate the Incident Response Coordination Team (IRCT), (see Chapter 7) and other deployed liaisons?
- What management processes will direct the distribution of Federal resources, such as Strategic National Stockpile (SNS) medications, vaccines, and supplies?
- Are guidelines in place specifying who has priority access to limited vaccines, personnel, or supplies, and how this will be communicated to the general public?
- Have plans for demobilization addressed the demobilization of Federal public health and medical assets?

8.2 Training Strategies

Training that incorporates the MSCC Management System could follow the same strategies presented under implementation. A course that orients participants to the overall system and its functions is important in establishing the key concepts for preparedness planners and incident response managers. A shorter version of the course must be available to brief healthcare executives. Other training activities could be assessed and revised so that they convey the appropriate knowledge and teach the skills necessary to operate the indicated MSCC integration actions.

Training sessions ideally include representatives from all of the major organizations involved in mass casualty and/or mass effect incident response, including the following:

- Hospital personnel
- Healthcare coalition (Tier 2) representatives
- Public health officials
- EMS personnel
- Fire service personnel
- Law enforcement officers
- Emergency management personnel
- State-level emergency managers
- Other organizations that may be involved in major incident response (e.g., State Survey Agency, State Medicaid Agency, American Red Cross, Salvation Army, local pharmacy association).

To maximize the value of training, participants should have relatively comparable levels of knowledge and experience with regard to the management component of emergency preparedness and response.
This may be achieved by providing training in stages that present progressively more advanced concepts. For example, the beginner level might focus on important medical and health issues in EMP and EOP development, such as incident action planning and UC. More advanced training might address the interaction of medical and health assets with other response agencies at the jurisdictional, State, and Federal levels. Even at the beginner level, however, it is critical that participants understand the basic applications of emergency management and the Incident Command System (ICS, see Appendix B).

Individuals providing training should be senior-level personnel with significant experience and demonstrated expertise in large-scale incident response. Beyond demonstrating a subject matter expertise, trainers should be effective instructors with exceptional communication skills. They should possess the skills needed to do the following:

- Effectively communicate complex topics in easy-to-understand language
- Help trainees work through real-life scenarios while integrating many diverse perspectives into decision-making processes and incident planning
- Motivate trainees from different professional disciplines to work together in support of improving overall strategy for medical surge.

To complement didactic instruction, exercises may be used to *evaluate* systems, processes, and skills.[3] The evaluation objectives are established as the first step in exercise planning, so the incident scenario and other parameters may be designed to meet these objectives. Exercises that are intended to evaluate the functional effectiveness of the MSCC Management System should have objectives that focus on coordination between tiers and integration of individual assets within the tiers.

Incorporating concepts from the MSCC Management System into existing response plans promotes ongoing training through their use during response to small or low-intensity events. This is important in familiarizing incident managers and response personnel with the system and facilitates coordination and integration under more severe incident stress. Frequent practice will also help emergency planners identify how plans can be revised to enhance interorganizational coordination and multidisciplinary integration.

8.3 Ongoing System Evaluation

An effective response system is one that continually evolves to incorporate best-demonstrated practices identified in analyses of training exercises or actual events. Therefore, the response system should have a built-in mechanism that provides feedback on the strengths and weaknesses of preparedness and response initiatives, and that identifies strategies to improve the overall system. One primary vehicle for this feedback is a thorough and timely after-action report process. This process must look at medical and public health components of incident response and, therefore, must have clearly defined participatory roles for acute-care medical and public health responders. Moreover, there should be processes attached to the after-action reports to promote organizational learning rather than just an awareness of "lessons learned."[4]

[3]The Department of Homeland Security's Homeland Security Exercise and Evaluation Program (HSEEP) helps State and local jurisdiction governments develop, implement, and evaluate exercise programs to enhance preparedness. Additional information on HSEEP is available at http://www.ojp.usdoj.gov/odp/docs/hseep.htm.

[4]Additional information on organizational learning may be found in Emergency Management Principles and Practices for Healthcare Systems, Unit 4. Available at http://www1.va.gov/emshg/page.cfm?pg=122.

NOTES

Appendix A:
MSCC Management System Assumptions

[This page left intentionally blank]

MSCC Management System Assumptions

Several assumptions were made in developing the MSCC Management System. These assumptions are delineated below to help the reader understand the basis and rationale for the development of this document.

Management Guidance Sought for Incident Response

Across the United States, acute-care medical providers and public health officials are recognizing the need for effective management of mass casualties and unusual types of injury and illness that exceed prior preparedness levels. Multiple interviews and discussions reflect the following prevalent views:

- Hospital-based and other acute-care medical providers are challenged by the sizable and increasing volume of literature, courses, Internet sites, and other materials being produced on medical surge capacity.
- Hospital-based and other acute medical providers seek guidance that explicitly outlines important management, operations, and support components necessary for response to complex medical incidents. Many past efforts fall short because either they focus entirely on operations (e.g., teaching triage systems) or they present only specific, isolated event parameters (e.g., characteristics of specific biological agents).
- Guidance, while specific, must also provide flexibility and allow for change that addresses the identified needs. In addition, it must "fit" within individual systems and traditions so that it is consistent with established approaches.

A Management System Must Have Practical Applications

The MSCC Management System must provide a *practical* organizational framework for current public health, acute-care medical, and emergency management systems. It must consider the diversity in management and practice that resides among stakeholders, especially in the private medical sector. Securing buy-in from private medical entities presents a formidable challenge, with success contingent on demonstrating the importance of an emergency response organizational structure that varies from day-to-day operations and provides such benefits as effective incident planning for emergency response.

Planning Must Consider the Interface Between State and Local Agencies

Traditionally, emergency management in the United States has been primarily a local responsibility. This is an effective approach because of the immediate needs of victims. A major area that varies from this authority construct is public health, which has evolved more as a State power. The interface between State public health and local emergency management and medical response requires careful planning because time and resource imperatives must be met primarily through local response.

Input From Public Health and Medical Providers Enhances Incident Management

The *majority* of emergency and disaster events are managed by non-health/medical agencies. The integration of public health and medical disciplines into this management framework presents several advantages:

- Timely input by public health and medical managers at decision-making levels regarding life and safety issues for non-health responders.
- Ability to define medical response priorities across all aspects of an incident and incorporate them into a single cohesive strategy.
- Promotion of a proactive rather than a reactive response by HCOs helps to ensure the continuity of medical operations during an incident.
- Hands-on instruction for public health and medical managers by jurisdictional managers who have extensive incident management experience.

Public Health and Medicine May Have Leadership Roles in Incident Management

Public health and medical disciplines must assume *the* leadership role in the management of certain events, such as bioterrorism, or other incidents involving unusual or large numbers of casualties. In these scenarios, public safety agencies, which traditionally are the lead agencies in community response, would then provide support. This represents a significant adaptation for medical and public safety groups from their traditional roles in large-scale incident management. An effective "unified command" team, with a medical/health incident commander as the lead, may be the most effective way to accomplish this important task.

Healthcare Organizations Require Broad Support To Provide MSCC

To maximize MSCC, hospitals and other healthcare organizations (HCOs) require a broad range of support (e.g., logistical, information, financial, regulatory) to address their role in a potentially overwhelming event. These support needs are not well understood outside the hospital community.

Training Efforts Must Be Based on Established, Defined Response Systems

Many previous training efforts in incident management for healthcare personnel have not been well coordinated or based on defined hospital response systems. Effective, operational-level training must be structured on existing and available systems. It must be adaptable to the healthcare circumstances so that, if participants don't have the necessary systems, the training will demonstrate how to develop and implement operational systems.

The U.S. Healthcare System Maintains Excellent Baseline Capabilities

Under normal conditions, excellent baseline capabilities exist to address everyday health and medical issues in most communities in the United States. The most cost-effective, reliable strategy in MSCC is to first provide system support to these existing resources to enhance their volume and range for medical evaluation and treatment.

There Are Finite Limits to MSCC

Any attempt to develop and implement MSCC strategies must acknowledge that definite limits exist because no system can have limitless capacity. Expectations for the end product must be established in accordance with these limitations (for example, mass casualty care cannot be provided all at once, not all victims can be saved, and triage may be used to provide "the greatest good to the greatest number"). These realities should be carefully but clearly communicated to the public. Managing public expectations may be one of the most critical strategies in a challenging or overwhelming event.

Funding Is Available To Implement Management Systems

Significant Federal grants are being given to State and local public health agencies for emergency planning and training. Thus, money is available to implement management systems in the public health and private medical communities. The most efficient use of these funds is to define and implement management systems *before* the purchase of specific technologies.

Appendix B: Incident Command System Primer for Public Health and Medical Professionals

[This page left intentionally blank]

Incident Command System Primer

Traditionally, preparedness actions for public health and medical emergency or disaster response have focused on the operational (tactical) knowledge and skills required by *individuals* to respond. This has resulted in training programs developed primarily for such topics as victim triage or the characteristics of specific hazards (e.g., chemical or biological agents). Though this knowledge is important and has relevance, much of it is easily accessed during incident response and does little to maximize the capacities and capabilities of existing structures. In other words, teaching and training on these topics provides little in the way of strategic knowledge that improves the ability of individuals to respond as part of a cohesive *system*.

Management systems exist in most professional disciplines, but they have a wide range of primary objectives. Many businesses, for example, have developed systems with the primary objective of maximizing profits. The use of a well-described management system helps to optimally leverage available resources. It allows disparate personnel and resources to organize in a manner that allows them to achieve a desired outcome. Equally important is the ability of management systems to prevent discord and confusion among personnel, particularly when engaged in activities under stressful conditions. In emergency or disaster response, the primary objective of a management system should be to organize and coordinate disparate response assets to effectively address the incident issues, while minimizing risks (physical, financial, etc.) to responders. This was a primary motivation for the development of the Incident Command System (ICS).

The ICS was originally developed to help coordinate the multiple agencies and types of response personnel acting to control wild-land fires. The physical and financial risk in wild-land firefighting can be extreme when multiple agencies come together. Disparate organizations are able to work together effectively using ICS because, among other reasons, it establishes a common terminology and advocates a management-by-objectives philosophy.

The decision to participate in ICS is based on an understanding that, by doing so, an agency or individual can expect the following:

- Enhanced collective security
- Increased information sharing
- Decreased confusion among responders due to coordination of response actions.

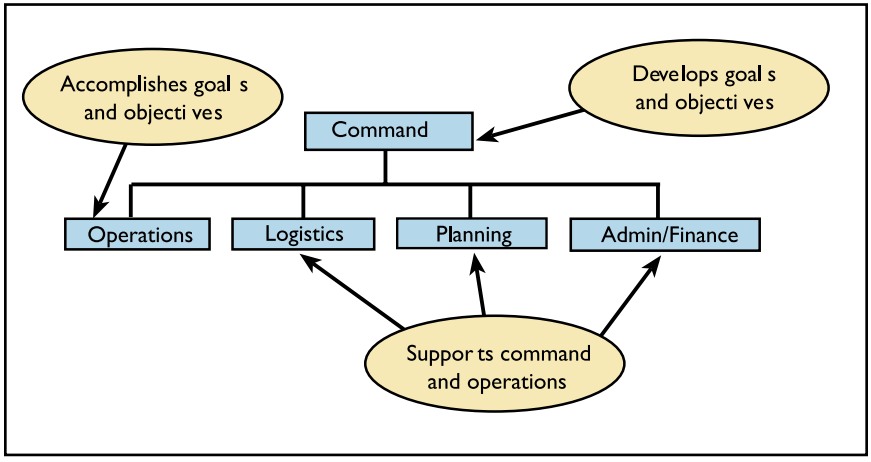
One of the main tenets of ICS is that a wide range of tasks is necessary in any incident response. These tasks can be grouped into categories that reflect similarities. For instance, all tasks that represent support of response personnel through the provision of accurate information can be grouped into the Planning Section. This approach has led to the description of five main functional areas that are necessary for response (Figure B-1):

- ***Command:*** Provides overall direction of the response through the establishment of control and operational period objectives for the system. This functional area usually includes other activities that are critical to providing adequate management:
  - *Public Information Officer* manages information released to media and public
  - *Safety Officer* assesses hazardous and unsafe conditions and develops measures to ensure responder safety
  - *Liaison Officer* provides coordination with agencies outside the response system.

- ***Operations Section:*** Achieves Command's objectives through directed strategies and execution of tactics.

- ***Logistics Section:*** Supports Command and Operations with personnel, supplies, communications equipment, and facilities.
- ***Planning Section:*** Supports Command and Operations with information management and the documentation of prospective plans of actions (also known as incident action plans, or IAPs). Critical components include the following:
  - Tracking of the status of resources and continual updates of the situation (event)
  - Development of contingency plans and long-range plans for Command staff
  - Early development of demobilization plans.
- ***Administration/Finance Section:*** Supports Command and Operations through tracking of such issues as reimbursement and regulatory compliance.

Figure B-1. Incident Command System



Public health and medical disciplines have focused historically on the Operations functions necessary for response. Experience demonstrates that problems will arise if inadequate attention is paid to the other functional areas:

- ***Protection of responders:*** Inadequate initial consideration for personal protective equipment (PPE) could cause responders to be exposed to an infectious disease (a Safety function).
- ***Management of strategies:*** Inadequate coordination of strategies and tactics for screening for a disease might promote confusion in the patient population if people receive different evaluation or treatment at various healthcare facilities (a Command function).
- ***Management of information:*** Inadequate information management might result in the transportation of patients to a hospital that is already overwhelmed with walk-in patients (a Planning function).

Many of the most severe challenges during an incident response arise within the response system itself. Therefore, ICS devotes a large portion of its activities to supporting the response system, whether through Logistics, Planning, or Administration/Finance Sections.

The advantages of using ICS are not limited to organizing assets into similar tasks (functions and task groups).[1] This merely represents a "systems description." Another critical advantage provided by ICS is a "concept of operations," or a description of how the pieces function in a well coordinated manner through the sucessive stages of a response.

These are the critical processes that make ICS work. For example, a well-described goal of ICS is to transition from "reacting" to an incident to "proactively managing" an incident. Though many systems provide checklist procedures to be followed during the initial stages of a response, it is desirable to have commanders proactively establish overall objectives and strategies for response based on evolving incident and response parameters. Other, more finite, processes that allow ICS functions to interact are described as well. For instance, the simple act of holding an operations briefing can seem complex under the stress of response. In professionally conducted ICS, established "rules" are used for

[1]A critical shortcoming of many ICS training programs is that they provide only a description of functions without also providing a description of how the functions interact.

meetings to prevent confusion, limit disruptions, promote the capture of information, and adhere to time limitations. This contrasts with the less efficient tele-conference methods commonly used by the public health and medical disciplines during response to major events.[2]

With so many inherent advantages to the use of ICS, why has it not been readily adopted by many in the public health and medical disciplines? Part of the answer is that incident command systems can be complex to describe. When explained in an oversimplified manner, confusion results and there is a lack of understanding of the applicability of ICS. In addition, ICS principles are typically described in the terms used where it was originally developed—wild-land fire services. Many differences exist between this discipline and public health and medicine, most notably the existence of line authority. With inadequate explanations of ICS, personnel in public health and medical disciplines may be tempted to focus on the simple answers when preparing for an event. This leads them to concentrate on specific technologies that can be purchased as opposed to how to structure an incident response.

Increasingly, public health and medical entities are realizing the importance of organizing response according to ICS principles. Many hospitals have established response structures based on the Hospital Incident Command System (HICS), formerly known as the Hospital Emergency Incident Command System (HEICS). Others have implemented their own versions of hospital incident command. Some public health departments have begun to adopt systems approaches, using ICS principles, to manage complex health events. The adoption of these ICS principles is necessary to ensure consistency with the National Incident Management System (NIMS), which includes ICS. For public health and medicine to be considered equal partners and fully integrated into the response community, the concepts put forth in ICS should form the basis of their response systems. Without this foundation, it will become increasingly difficult for public health and medicine to maximize their roles in incident response.

[2]Personal observations of the MSCC project coordinators during the anthrax response in the National Capital Region in 2001, as well as during the TOPOFF I and II exercises and other incidents.

NOTES

Appendix C:
What Is An Incident Action Plan?

[This page left intentionally blank]

What Is An Incident Action Plan?

An incident action plan (IAP) formally documents incident goals (known as control objectives in NIMS), operational period objectives, and the response strategy defined by incident command during response planning. It contains general tactics to achieve goals and objectives within the overall strategy, while providing important information on event and response parameters. Equally important, the IAP facilitates dissemination of critical information about the status of response assets themselves. Because incident parameters evolve, action plans must be revised on a regular basis (at least once per operational period) to maintain consistent, up-to-date guidance across the system.

The following should be considered for inclusion in an IAP:

- Incident goals (where the response system wants to be at the end of response)
- Operational period objectives (major areas that must be addressed in the specified operational period to achieve the goals or control objectives)
- Response strategies (priorities and the general approach to accomplish the objectives)
- Response tactics (methods developed by Operations to achieve the objectives)
- Organization list with ICS chart showing primary roles and relationships
- Assignment list with specific tasks
- Critical situation updates and assessments
- Composite resource status updates
- Health and safety plan (to prevent responder injury or illness)
- Communications plan (how functional areas can exchange information)
- Logistics plan (e.g., procedures to support Operations with equipment, supplies, etc.)
- Responder medical plan (providing direction for care to responders)
- Incident map (i.e., map of incident scene)
- Additional component plans, as indicated by the incident.

What follows is an example of an individual healthcare organization (HCO) action plan, as it might appear following response planning by the HCO incident management team. This is meant only to give the reader a general idea of how the components in the foregoing list might be described in an HCO action plan during emergency response. In reality, the information included in an action plan will vary depending on the incident circumstances and the type of response asset.

Sample Considerations for an HCO Incident Action Plan

Scenario: contagious disease outbreak with limited numbers of patients.

- HCO goal: to protect the facility, personnel, and non-incident patients from the effects of the hazard (i.e., infectious disease) while providing optimal care to incident victims and maintaining normal medical operations.

- HCO objectives:
  - Maintain safety of HCO personnel
  - Maintain safety of non-incident patients
  - Provide care to infected, exposed, or concerned patients.

- HCO strategies and tactics:
  - Activate appropriate assets in the hospital to address general need for increased patient volume (incident management team, emergency department (ED), laboratory personnel, etc.)
  - Establish the operational period for HCO response planning
  - Secure portals of entry into the HCO to monitor for entry of infected/contagious patients
    - Post signs that contain easy-to-understand instructions for potential incident victims to decrease the likelihood of disease transmission.
    - Post security at each entrance (with personal protective equipment (PPE)) to monitor purpose of visit.[1]
    - Brief ED triage personnel and provide them with PPE.

[1] This demonstrates the importance of sharing incident action plans that contain general strategies and specific tactics. If one HCO has personnel wearing PPE while other HCOs do not, the staff and the general public will be confused and will potentially lose trust in the incident management at the HCO.

  - Monitor staff for signs/symptoms of illness (services provided by the HCO occupational health staff)
    - Unit leader to perform check at shift change.
  - Provide for infection control
    - Distribute PPE to HCO staff
    - Provide instruction to HCO staff on the use of PPE
    - Provide instruction to staff on procedures that are high risk for transmission of agent.

- HCO resources assigned:
  - Security personnel (numbers assigned)
  - ED (including staff to augment response in ED)
  - Occupational health personnel (to monitor employee health)
  - Infection control personnel (assisting with instructions and delivery of PPE)
  - Personnel pool staff available to supplement above assignments.

- HCO event updates:
  - Information relevant to internal facility operations:
    - Number of patients screened and released in ED over the past 24 hours
    - Number of patients admitted with diagnosis of suspected disease
    - Number of patients admitted with confirmed disease (placed in cohort isolation)
    - Information on known patient-to-staff transmission of disease (or lack thereof)
    - Updates on case definition, risk factors for contracting the disease, and other new information.
  - Information relevant to external operations:
    - Number of patients screened in all jurisdictional and regional EDs over the past 24 hours;
    - Number of patients admitted with suspected disease in all jurisdictional and regional EDs

- º Number of patients admitted with confirmed disease in all jurisdictional and regional EDs
- º Number of cases of nosocomial and hospital staff cases of disease in jurisdictional and regional HCOs
- º Description of the Tier 3 response to date (including higher tiers as relevant).

- Section updates:
  - Incident Command
  - Operations: particular emphasis on staffing
  - Logistics: including emphasis on where and how to obtain PPE and prophylaxis
  - Planning: emphasis on turning in functional area reports by pre-designated times
  - Administration/Finance

- Safety message:
  - Coordinated with the healthcare coalition (Tier 2) and jurisdictional authorities (Tier 3) to promote a uniform message to HCO personnel in the jurisdiction
  - Covers infection control, PPE, prophylaxis, extended incident stress and other topics.

- Communications message:
  - Internal: contact method for emergent messages and routine functional area updates.
  - External: provides explanation for the differences in communication channels for strategic issues (contact external agencies through HCO management function) and for tactical issues (direct contact with external responders).

- Event projections: as available.

NOTES

NOTES

Appendix D: Glossary

[This page left intentionally blank]

GLOSSARY

Adequate: Denotes the quality or quantity of a system, process, procedure, or resource that will achieve the relevant incident response objective.

Area Command (Unified Area Command): An organization established (1) to oversee the management of multiple incidents that are each being handled by an ICS organization, or (2) to oversee the management of large or multiple incidents to which several Incident Management Teams have been assigned. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources according to priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed. Area Command becomes Unified Area Command when incidents are multijurisdictional. (adapted from NIMS)

Assignments: Tasks given to resources to perform within a given operational period that are based on operational objectives defined in the IAP. (adapted from NIMS)

Chief: The Incident Command System (ICS) title for individuals responsible for command of the functional ICS Sections: Operations, Planning, Logistics, and Finance/Administration. This group is collectively referred to as the General Staff.

Command Staff: In an incident management organization, the Command Staff consists of the Incident Command and the special staff positions of Public Information Officer, Safety Officer, Liaison Officer, and other positions as required (such as Senior Advisors). Special staff positions report directly to the Incident Commander and may have an assistant or assistants. (adapted from NIMS)

Complex Medical Incidents: Events where the victims have unusual medical
needs or require medical care that is not readily available. These medical needs may be very difficult to adequately define or address without specialized expertise, even with only a few casualties.

Contingency Plan: Proposed strategy and tactics (often documented) to be used when a specific issue arises or event occurs during the course of emergency or disaster operations.

Disaster ("Major"): As defined in the Robert T. Stafford Act, a "major disaster" is any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or

drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

Emergency (Federal): As defined in the Robert T. Stafford Act, any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

Emergency Management: Describes the science of managing complex systems and multidisciplinary personnel to address emergencies or disasters, across all hazards, and through the phases of mitigation, preparedness, response, and recovery.

Emergency Management Program (EMP): A program that implements the organization's mission, vision, management framework, and strategic goals and objectives related to emergencies and disasters. It uses a comprehensive approach to emergency management as a conceptual framework, combining mitigation, preparedness, response, and recovery into a fully integrated set of activities. The "program" applies to all departments and organizational units within the organization that have roles in responding to a potential emergency. (adapted from NFPA 1600 and the VHA Guidebook, 2004)

Emergency Operations Center (EOC): The physical location from which the coordination of information and resources to support domestic incident management activities normally takes place. The use of EOCs is a standard practice in emergency management and is one type of Multiagency Coordination Center (MACC). The EOC is used in varying ways at all levels of government and within private industry to provide coordination, direction, control or support during emergencies.

Emergency Operations Plan (EOP): The "response" plan that an entity (organization, jurisdiction, State, etc.) maintains for responding to any hazard event. It provides action guidance for management and emergency response personnel, during the response phase of Comprehensive Emergency Management.

Emergency Support Function (ESF): As defined in the National Response Plan, an ESF refers to a group of capabilities of Federal departments and agencies to provide the support, resources, program implementation, and services that are most likely to be needed to save lives, protect property, restore essential services and critical infrastructure, and help victims return to normal following a national incident. An ESF represents the primary operational level mechanism to orchestrate activities to provide assistance to State, Tribal, or local governments, or to Federal departments or agencies conducting missions of primary Federal responsibility.

Exceptional: Refers to unusual numbers or types of victims, impacted medical care systems, or other very adverse conditions.

Federal: Of or pertaining to the Federal Government of the United States of America.

Finance/Administration: The ICS functional area that addresses the financial, administrative, and legal/regulatory issues for the incident management system. It monitors costs related to the incident, and provides accounting, procurement, time recording, cost analyses, and overall fiscal guidance.

First Responder: Refers to individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment, including emergency response providers as defined in Section 2 of the Homeland Security Act of 2002 (6 U.S.C. 101). It includes emergency management, public health, clinical care, public works, and other skilled support personnel (e.g., equipment operators) that provide immediate support services during prevention, response, and recovery operations.

Functional Area: A major grouping of the similar tasks that agencies perform in carrying out incident management activities. These are usually all or part of one of the five ICS sections (Command, Operations, Logistics, Planning, Administrative/Finance).

Function: In the Incident Command System, refers to the five major activities (i.e., Command, Operations, Planning, Logistics, and Finance/Administration). Intelligence is not considered a separate function under traditional ICS but has been added for consideration as a possible separate function under NIMS. The term function is also used when describing the activity involved (e.g., the Planning function).

Hazard: A potential or actual force, physical condition, or agent with the ability to cause human injury, illness, and/or death, and significant damage to property, the environment, critical infrastructure, agriculture and business operations, and other types of harm or loss.

Hazard Vulnerability Analysis (HVA): A systematic approach to identifying all hazards that may affect an organization, assessing the risk (probability of hazard occurrence and the consequence for the organization) associated with each hazard and analyzing findings to create a prioritized comparison of hazard vulnerabilities. The consequence, or vulnerability, is related to both the impact on organizational function and the likely service demands created by hazard impact.

Homeland Security Presidential Directive-5 (HSPD-5): A Presidential directive issued on February 28, 2003, and intended to enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive National Incident Management System.

Incident: An actual or impending hazard impact, either human caused or by natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Action Plan (IAP): The document in ICS that guides the response for that operational period. It contains the overall incident objectives and strategy, general tactical actions and supporting information to enable successful completion of objectives. The IAP may be oral or written. When written, the IAP may have a number of supportive plans and information as attachments (e.g., traffic plan, safety plan, communications plan, and maps). There is only one IAP at an incident. All other "action plans" are subsets of the IAP and their titles should be qualified accordingly. For example, the jurisdiction primarily impacted usually develops the IAP. Action plans developed below the level of the jurisdiction could be referred to as "Operations Plans" (e.g., Summary Hospital Operations Plans or Individual Hospital Operations Plans).

Incident Commander (IC): The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site. (adapted from NIMS)

Incident Command System (ICS): The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources for emergency incidents. It may be used for all emergencies, and has been successfully employed by multiple response disciplines. ICS is used at all levels of government (local, State, Tribal, and Federal) to organize field level operations. (adapted from NIMS)

Incident Command Post (ICP): The physical location close to the incident site (or elsewhere for a diffuse incident or one with multiple sites), which serves as a base location for managing tactical or "field operations." Located within the ICP are designated representatives of the major response agencies for the incident, who fill positions in the incident command team. The ICP location is designated by the Incident Commander.

Incident Management Team (IMT): The Incident Commander, and appropriate Command and General Staff personnel assigned to an incident.

Incident Objectives: Statements of guidance and direction necessary for selecting appropriate strategy(s) and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible to allow for strategic and tactical alternatives. (adapted from NIMS)

Joint Information Center (JIC): A center established to coordinate the public information activities for a large incident. It is the central point of contact for all news media at the scene of the incident. Public information officials from all participating Federal agencies collaborate at the JIC, as well as public information officials from participating State and local agencies. (adapted from NIMS)

Jurisdiction: A political subdivision (Federal, State, county, parish, and/or municipality) with the responsibility for ensuring public safety, health, and welfare within its legal authorities and geographic boundaries. In the context of this handbook, it refers to a geographic area's local government, which commonly has the primary role in emergency response.

Liaison: In ICS, it is a position(s) assigned to establish and maintain direct coordination and information exchange with agencies and organizations outside of the specific incident's ICS structure. (adapted from NIMS)

Liaison Officer: A member of the Command Staff responsible for filling the senior liaison function with representatives from cooperating and assisting agencies.

Local Government: (HSPD-5 definition) A county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; an Indian Tribe or authorized tribal organization, or in Alaska a Native Village or Alaska Regional Native Corporation; a rural community, unincorporated town or village, or other public entity. (As defined in Section 2 (10) of the Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135, et seq. (2002).)

Logistics: The ICS functional section that provides resources and other support services to incident management, operations, and the other ICS sections. (adapted from NIMS)

Management by Objectives: In the ICS, this is a proactive management activity that involves a four-step process to achieve the incident goal. The steps are: establishing the overarching incident objectives; developing and issuing assignments, plans, procedures, and protocols; establishing specific, measurable objectives for various incident command functional activities and directing efforts to fulfill them, in support of defined strategic objectives; and documenting results to measure performance and facilitate corrective action. (adapted from NIMS)

Management Meeting: In the incident management process, the meeting that establishes (or revises) the incident goals and objectives and the makeup of the ICS structure. NIMS does not separate this meeting from the Planning meeting, although they are commonly separated in wildland fire and Urban Search and Rescue incident management.

Measures of Effectiveness: Defined criteria for determining whether satisfactory progress is being accomplished toward achieving the incident objectives. Similarly, defined criteria can also be utilized to establish the effectiveness of the overall Emergency Management Program in meeting its defined goals across the four phases.

Medical Surge: Describes the ability to provide adequate medical evaluation and care in events that severely challenge or exceed the normal medical infrastructure of an affected community (through numbers *or* types of patients).

Mission Assignment: The vehicle used by DHS/FEMA to support Federal operations in a Robert T. Stafford Act major disaster or emergency declaration. It orders immediate, short-term emergency response assistance when an applicable State or local government is overwhelmed by the event and lacks the capability to perform, or contract for, the necessary work. (NRP definition)

Mitigation: Activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of a hazard. Mitigation involves ongoing actions to reduce exposure to, probability of, or potential loss from hazards. Examples include zoning and building codes, floodplain buyouts, and analysis of hazard-related data to determine where it is safe to build or locate temporary facilities. Mitigation can include efforts to educate governments, businesses and the public on measures they can take to reduce loss and injury. (adapted from NIMS)

Mobilization: Activities and procedures carried out that ready an asset to perform incident operations according to the Emergency Operations Plan. During the response phase of Comprehensive Emergency Management, it is the stage that transitions functional elements from a state of inactivity or normal operations to their designated response state. This activity may occur well into the response phase, as additional assets are brought on line or as surge processes are instituted to meet demands.

Multijurisdiction Incident: An incident that extends across political boundaries and/or response disciplines, requiring action from multiple governments and agencies to manage certain aspects of an incident. These incidents may best be managed under Unified Command. (adapted from NIMS)

Mutual Aid Agreement: Written instrument between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel, equipment, supplies, and/or expertise in a specified manner. An "agreement" is generally more legally binding than an "understanding."

National Incident Management System (NIMS): A system mandated by HSPD-5 that provides a consistent nationwide approach for Federal, State, Tribal, and local governments, the private sector, and nongovernmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. To provide for interoperability and compatibility among Federal, State, and local capabilities, NIMS includes a core set of concepts, principles, and terminology. HSPD-5 identifies these as the Incident Command System; multiagency coordination systems; unified command; training; identification and management of resources (including systems for classifying types of resources); qualifications and certifications; and the collection, tracking, and reporting of incident information and incident resources. (adapted from NIMS)

National Response Plan (NRP): The NRP establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. The plan incorporates best practices and procedures from incident management disciplines – homeland security, emergency management, law enforcement, firefighting, public works, public health, responder and recovery worker health and safety, emergency medical services, and the private sector – and integrates them into a unified structure. It forms the basis of how the Federal government coordinates with State, local, and Tribal governments and the private sector during incidents.

Operations Section: The ICS functional area responsible for all resources and activities that directly address the incident objectives. It develops all tactical operations at the incident, and in ICS, includes branches, divisions and/or groups, Task Forces, Strike Teams, Single Resources, and Staging Areas.

Planning (incident response): Activities that support the incident management process, including completing the incident action plan and support plans and accomplishing incident information processing. This is in contrast to preparedness planning, which is designed to ready a system for response.

Planning Meeting: A meeting held as needed throughout the duration of an incident to select specific strategies and general tactics for incident operations, and for service and support planning. In the incident management process, the planning meeting establishes strategy and priorities based upon the goals and objectives developed in the management meeting. Remaining decisions for the action plan are achieved during this meeting. (adapted from NIMS)

Planning Section: In ICS, this functional area is responsible for the collection, evaluation, and dissemination of operational information related to the incident, and for the preparation and documentation of the incident action plan and its support plans. The Planning Chief is responsible for running the management and planning meetings and the operations briefing, and the Planning Section supports these activities. The Planning Section also maintains information on the current and forecasted situation, the status of resources assigned to the incident, and other incident information. (adapted from NIMS)

Preparedness: The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the capability to protect against, respond to, and recover from hazard impacts. Preparedness is a continuous process. Within NIMS, preparedness involves efforts at all levels of government and the private sector to identify threats, to determine vulnerabilities, and to identify required response plans and resources. NIMS preparedness focuses on establishing guidelines, protocols, and standards for planning, training and exercise, personnel qualifications and certification, equipment certification, and publication management. (adapted from NIMS)

Prevention: Actions to avoid a hazard occurrence, or to avoid or minimize the hazard impact (consequences) if it does occur. Prevention involves actions to protect lives and property. Under HSPD-5, it involves applying intelligence and other information to a range of activities that may include such countermeasures as deterrence operations; heightened inspections; improved surveillance and security operations; investigations to determine the full nature and source of the threat; public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and as appropriate specific law enforcement operations aimed at deterring, preempting, interdicting, or disrupting illegal activity, and apprehending potential perpetrators and bringing them to justice. (adapted from NIMS)

Private Sector: Organizations and entities that are not part of any governmental structure. It includes for-profit and not-for-profit, and formal and informal structures, including commerce and industry, non-governmental organizations (NGO), and private voluntary organizations (PVO). (adapted from NIMS)

Processes: Systems of operations that incorporate standardized procedures, methodologies, and functions necessary to effectively and efficiently accomplish objectives. (adapted from NIMS)

Public Health Emergency: Defined by the Model State Emergency Health Powers Act (MSEHPA): An occurrence or imminent threat of an illness or health condition that is believed to be caused by: (1) bioterrorism; (2) the appearance of a novel or previously controlled or eradicated infectious agent or biological toxin; (3) a natural disaster; (4) a chemical attack or accidental release; or (5) a nuclear attack or accident. It must pose a high probability of a large number of deaths in the affected population, or a large number of serious or long-term disabilities in the affected population, or widespread exposure to an infectious or toxic agent that poses a significant risk of substantial future harm to a large number of people in the affected population. (the Center for Law and the Public's Health at Georgetown and Johns Hopkins Universities)

Public Information Officer: Official at headquarters or in the field responsible for preparing and coordinating the dissemination of public information in cooperation with other responding Federal, State, Tribal, and local agencies. In ICS, the term refers to a member of the Command Staff responsible for interfacing with the public and media and the Joint Information Center.

Recovery: The phase of Comprehensive Emergency Management that encompasses activities and programs implemented during and after response that are designed to return the entity to its usual state or to a "new normal." For response organizations, this includes return-to-readiness activities.

Resiliency: The ability of an individual or organization to quickly recover from change or misfortune.

Resources: All personnel and major items of equipment, supplies, and facilities available, or potentially available, for assignment to incident or event tasks on which status is maintained.

Response: Activities that address the direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans as well as activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes. As indicated by the situation, response activities may include applying intelligence and other information to lessen the effects or consequences of an incident; increased security operations;

continuing investigations into nature and source of the threat; ongoing public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and specific law enforcement operations aimed at preempting, interdicting, or disrupting illegal activity, and apprehending actual perpetrators and bringing them to justice. (adapted from NIMS)

Safety Officer: A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

Span of Control: The number of individuals a supervisor is responsible for, usually expressed as the ratio of supervisors to individuals (under NIMS, an appropriate span of control is between 1:3 and 1:7). (adapted from NIMS)

State: When capitalized, refers to any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any possession of the United States. (As defined in section 2 (14) of them Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135, et seq.(2002).)

Strategic: Strategic elements of incident management are characterized by continuous long-term, high-level planning by senior level organizations. They involve the adoption of long-range goals and objectives; the setting of priorities; the establishment of budgets and other fiscal decisions; policy development; and the application of measures of performance or effectiveness. (adapted from NIMS)

Surge Capability: The ability to manage patients requiring *unusual* or very *specialized* medical evaluation and care. Requirements span the range of specialized medical and public health services (expertise, information, procedures, equipment, or personnel) that are not normally available at the location where they are needed. It also includes patient problems that require special intervention to protect medical providers, other patients, and the integrity of the healthcare organization.

Surge Capacity: The ability to evaluate and care for a markedly increased volume of patients—one that challenges or exceeds normal operating capacity. Requirements may extend beyond direct patient care to include other medical tasks, such as extensive laboratory studies or epidemiologic investigations.

System: A clearly described functional structure, including defined processes, that coordinates otherwise diverse parts to achieve a common goal.

Tactical: Tactical elements of ICS are characterized by the execution of specific actions or plans in response to an actual incident or, prior to an incident, the implementation of individual or small unit activities, such as training or exercises.

Terrorism: Any premeditated, unlawful act dangerous to human life or public welfare that is intended to intimidate or coerce civilian populations or governments (National Strategy for Homeland Security, July 2002). It includes activity potentially destructive of critical infrastructure or key resources. It is a violation of the criminal laws of the United States or of any State or other subdivision of the United States in which it occurs. It can include activities to affect the conduct of a government by mass destruction, assassination, or kidnapping (Section 2 (15), Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135, (2002)).

Threat: An indication of possible violence, harm, or danger. (adapted from NIMS)

Unified Command: An application of ICS used when there is more than one agency with incident jurisdiction. Agencies work together through their designated Incident Commanders or Managers at a single location to establish a common set of objectives and strategies, and a single incident action plan. (adapted from NIMS)

Appendix E
Acronyms

[This page left intentionally blank]

ACF.....Administration for Children and Families
AHRQ.....Agency for Health Research and Quality
AoA.....Administration on Aging
APHT.....Applied Public Health Team
ARF.....Action Request Form
ASPR.....Assistant Secretary for Preparedness and Response
ATSDR .....Agency for Toxic Substances and Disease Registry
CDC.....Centers for Disease Control and Prevention
CMS.....Centers for Medicare and Medicaid Services
CONOPS.....Concept of Operations
DEOC .....Director's Emergency Operations Center
DHS .....Department of Homeland Security
DMAT .....Disaster Medical Assistance Team
DMORT.....Disaster Mortuary Operational Response Team
DoD .....Department of Defense
DoH .....Department of Health
DOL .....Department of Labor
DPMU .....Disaster Portable Morgue Unit
DRG.....Domestic Readiness Group
ECC.....Emergency Communications Center
EMA.....Emergency Management Agency
EMAC.....Emergency Management Assistance Compact
EMG.....Emergency Management Group
EMMA.....Emergency Managers Mutual Aid
EMP .....Emergency Management Program
EMS.....Emergency Medical Services
EMTALA ....Emergency Medical Treatment and Labor Act
EOC .....Emergency Operations Center
EOP.....Emergency Operations Plan
EPA.....Environmental Protection Agency
ERT-A.....Emergency Response Team - Advance
ERT-N.....Emergency Response Team - National

ESF ..... Emergency Support Function
FDA ..... Food and Drug Administration
FEMA ..... Federal Emergency Management Agency
FMS..... Federal Medical Station
HAZMAT ..... Hazardous Materials
HCO..... Healthcare Organization
HHS ..... Department of Health and Human Services
HICS ..... Hospital Incident Command System
HIPAA..... Health Insurance Portability and Accountability Act
HRSA..... Health Resources and Services Administration
HSEEP ..... Homeland Security Exercise and Evaluation Program
HSPD ..... Homeland Security Presidential Directive
HVA..... Hazard Vulnerability Analysis
IAP ..... Incident Action Plan
ICP ..... Incident Command Post
ICS..... Incident Command System
IHS ..... Indian Health Service
IMPT ..... Incident Management Planning Team
IRCT..... Incident Response Coordination Team
JCAHO..... Joint Commission on Accreditation of Healthcare Organizations
JFO ..... Joint Field Office
JIC ..... Joint Information Center
LEPC..... Local Emergency Planning Committees
LRN ..... Laboratory Response Network
MA ..... Mission Assignment
MACC ..... Multiagency Coordination Center
MAC Group .. Multiagency Coordination Group
MACS ..... Multiagency Coordination System
MHT ..... Mental Health Team
MOU..... Memorandum of Understanding
MSCC ..... Medical Surge Capacity and Capability
MSEHPA..... Model State Emergency Health Powers Act
NDMS..... National Disaster Medical System

NIH.....National Institutes of Health
NIMS.....National Incident Management System
NJTTF.....National Joint Terrorism Task Force
NOC.....National Operations Center
NRCC.....National Response Coordination Center
NRP.....National Response Plan
OPDIV.....Operating Division
PFO.....Principal Federal Official
PIO.....Public Information Officer
PPE.....Personal Protective Equipment
RD.....Regional Director
RDF.....Rapid Deployment Force
REC.....Regional Emergency Coordinator
RHA.....Regional Health Administrator
RRCC.....Regional Response Coordination Center
SAMHSA....Substance Abuse and Mental Health Services Administration
SARS.....Severe Acute Respiratory Syndrome
SCHIP.....State Children's Health Insurance Program
SEMS.....Standardized Emergency Management System
SHO.....Senior Health Official
SNS.....Strategic National Stockpile
SOC.....Secretary's Operations Center
TOPOFF.....Top Officials
UC.....Unified Command
USPHS.....U.S. Public Health Service
VA.....Department of Veterans Affairs
VMAT.....Veterinary Medical Assistance Team

NOTES

Appendix F
Additional Readings

[This page left intentionally blank]

Additional Readings

(Project coordinators receive no financial benefit from the purchase or use of these materials.)

American Hospital Association. *Emergency Readiness*. Available at: http://www.aha.org/aha/issues/Emergency-Readiness/resources.html. Accessed September 20, 2006.

American Hospital Association. *Model Hospital Mutual Aid Memorandum of Understanding*. Available at: http://www.aha.org/aha/content/2002/pdf/ModelHospitalMou.pdf. Accessed September 20, 2006.

Barbera, J. A., and Macintyre, A. G. *Jane's Mass Casualty Handbook: Hospital.* Surrey, UK: Jane's Information Group, Ltd. 2003. Available for purchase at: http://security.janes.com/public_safety. Accessed February 17, 2004.

Barbera, J. A., and Macintyre, A. G. *Medical and Health Incident Management (MaHIM) System: A Comprehensive Functional System Description for Mass Casualty Medical and Health Incident Management*. Institute for Crisis, Disaster, and Risk Management, The George Washington University. Washington, DC, October 2002. Available at: http://www.gwu.edu/~icdrm. Accessed February 17, 2004.

California Emergency Medical Services Authority. *Hospital Incident Command System (HICS)*. Available at: http://www.emsa.ca.gov/hics/hics.asp. Accessed January 4, 2007.

California Governor's Office of Emergency Services. *Standardized Emergency Management System (SEMS)*. Available at: http://www.oes.ca.gov/Operational/OESHome.nsf/Content/B4943535210895448825 6C2A0071E038?OpenDocument. Accessed January 7, 2004.

Department of Homeland Security. *National Incident Management System (NIMS).* Available at: http://www.fema.gov/emergency/nims/index.shtm. Accessed January 4, 2007.

Emergency Management Principles and Practices for Healthcare Systems. The Institute for Crisis, Disaster, and Risk Management (ICDRM) at the George Washington University (GWU); for the Veterans Health Administration (VHA), U.S. Department of Veterans Affairs (VA). Washington DC, June 2006. Available at http://www1.va.gov/emshg/page.cfm?pg=122.

Federal Emergency Management Agency (FEMA). *Basic Incident Command System IS 195*. Available at: http://www.training.fema.gov/emiweb/IS/is195.asp. Accessed January 4, 2007.

Federal Emergency Management Agency (FEMA). *Guide for All-Hazard Emergency Operations Planning: State and Local Guide (101)*; April 2001. Available at: http://www.fema.gov/plan/gaheop.shtm. Accessed January 4, 2007.

Harrald, J. R., and Stoddard, L. *Scenario Based Identification and Structuring of Information Needs for the Response to Complex International Crises*. Proceedings of the 5th Annual Conference of the Emergency Management Society; 1998; Washington, DC, 295-306.

Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). *Emergency Management in the New Millennium*. Perspectives. December 21, 2001; (12). Available at: http://www.jcrinc.com/subscribers/perspectives.asp?durki=1122. Accessed January 4, 2007.

Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). *Proposed Revisions to the Emergency Management Standards*. Available at: http://www.jointcommission.org/. Accessed January 4, 2007.

United States Coast Guard (USCG). *U.S. Coast Guard Incident Management Handbook. COMDTPUB P3120.17*. Coast Guard Headquarters, Washington, DC, April 2001.

Veterans Health Administration (VHA). *Emergency Management Program Guidebook*. Available at: http://www1.va.gov/emshg/apps/emp/emp.htm. Accessed June 9, 2004.

Individual Healthcare Assets (Tier 1)

Healthcare Coalition (Tier 2)

Jurisdiction Incident Management (Tier 3)

Management of State Response (Tier 4)

Interstate Coordination (Tier 5)

Federal Support (Tier 6)

Implementation and Training

Margin Index

To use, bend book in half and follow margin index to page with color marker

U.S. Department of Health and Human Services