

***Bioterrorism and Other Public Health Emergencies
Tools and Models for Planning and Preparedness***

Providing Mass Medical Care with Scarce Resources: A Community Planning Guide

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About This Guide

Purpose of the Guide

The purpose of this guide is to provide community planners – as well as planners at the facility/community, institutional, State, and Federal levels – with valuable information and insights that will help them in their efforts to plan for and respond to a mass casualty event (MCE). This guide provides information on:

- The circumstances that communities likely would face as a result of an MCE.
- Key constructs, principles, and structures to be incorporated into the planning for an MCE.
- Approaches and strategies that could be used to provide the most appropriate standards of care possible under the circumstances.
- Examples of tools and resources available to help States and communities in their planning process.
- Illustrative examples of how certain health systems, communities, or States have approached certain issues as part of their MCE-related planning efforts.

This information will be useful in helping planners address the issues associated with preparing for and responding to an MCE in the context of broader emergency planning processes, such as those laid out in *Standing Together: An Emergency Planning Guide for America's Communities*, published by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO, 2005).

This document is not intended to reflect HHS policy, but to provide State and local planners options to consider when planning their response to an MCE.

Development of the Guide

This guide builds and expands on an earlier document published by the Agency for Healthcare Research and Quality (AHRQ) that explored the issues and outlined the principles associated with the provision of medical care in the face of overwhelming numbers of casualties. It is the product of collaboration between the Office of Public Health Emergency Preparedness and AHRQ. Leading experts were identified and a series of papers was commissioned to address issues pertaining to six critical fields related to mass casualty care. Working individually or as part of writing teams, the experts prepared drafts of their papers, which were presented for discussion among a broader group of experts at a meeting held in Washington, DC, on June 1–2, 2006. The list of meeting participants, including lead authors and the members of the writing teams, is presented in Appendix A.

Acknowledgements

This planning guide is the product of a collaborative effort and as such reflects the extensive contributions of many knowledgeable individuals who shared their time, insights, experiences, and expertise. Their backgrounds and perspectives range from field experience in providing mass medical care with scarce resources, to planning for such eventualities and all the related challenges and difficulties.

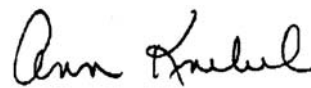
We would particularly like to thank our expert teams who crafted critical content in specific areas. In the area of **prehospital care**, our thanks go to Edward Gabriel, M.P.A., AEMT-P (Writing Team Lead), Peter Pons, M.D., George Foltin, M.D., Richard Serino, EMT-P, and Paul Maniscalco, M.P.A., EMT-P. The writing team that addressed **hospital and acute care** issues was comprised of John L. Hick, M.D. (Writing Team Lead), Lewis Rubinson, M.D., Ph.D., Daniel O’Laughlin, M.D., Gabor Kelen, M.D., Richard Waldhorn, M.D., and Dennis P. Whalen. The issues of **alternative care sites** were addressed by Stephen Cantrill, M.D. (Writing Team Lead), Dan Hanfling, M.D., FACEP, Peter Pons, M.D., and Carl Bonnett, M.D. An overview of the issues and challenges of providing **palliative care** was provided by Anne M. Wilkinson, M.S., Ph.D. (Writing Team Co-Lead), Marianne Matzo, Ph.D., APRN, BC, FAAN (Writing Team Co-Lead), Maria Gatto, M.A., APRN, and Joanne Lynn, M.D., M.A., M.S. In addition, we would like to acknowledge the expert writings on **ethical considerations** provided by Marc Roberts, Ph.D., and Evan G. DeRenzo, Ph.D., on the **legal environment** provided by James G. Hodge, Jr., J.D., LL.M.

This planning guide was prepared under contract with **Health Systems Research, Inc.** (HSR). HSR staff members’ contributions ranged from organizing and managing the input of all the expert teams, and the planning, logistics and facilitation of the expert meeting, to the overall planning guide concept, design, and production. We would like to thank the HSR writing, editing, and production staff who were so instrumental in shaping this planning guide and in ensuring that the final product will be of the greatest use for community planners in all settings: Lawrence Bartlett, Ph.D.; Valerie Gwinner, M.P.P., M.A.; Laurene Graig, M.A.; Dennis Zaenger, M.P.H.; Holly Doggett; Isha Fleming; Stephen Gilberg; Maureen Ball; Cheryl Bell; Katherine Flore, M.P.H.; and Laura Sternesky, M.P.A.

We sincerely hope that this community guide will serve as a practical tool for community planners across the U.S. as they consider the challenge of providing mass medical care with scarce resources.



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Executive Summary

Background

In the event of a catastrophic public health- or terrorism-related event, such as an influenza pandemic or the detonation of improvised nuclear devices, the resulting tens of thousands of victims will be likely to overwhelm the resources of a community's health care system. In this dire scenario, which we refer to as a mass casualty event (MCE), it will be necessary to *allocate scarce resources in a manner that is different from usual circumstances but appropriate to the situation*. Making optimal decisions concerning the allocation of scarce resources could make a big difference in the degree to which health care systems continue to function; ultimately it could mean saving many thousands of lives.

Purpose of the Guide

The purpose of this guide is to provide community planners – as well as planners at the facility/community, State, and Federal levels – with valuable insights and information that will help them in their efforts to plan for and respond to an MCE. The guide aims to present planners with approaches and strategies that would enable them to provide the most appropriate standards of care possible under the circumstances of an MCE.

This document is not intended to reflect HHS policy, but to provide State and local planners options to consider when planning their response to an MCE.

Development of the Guide

This guide builds and expands on an earlier document published by the Agency for Healthcare Research and Quality (AHRQ). *Altered Standards of Care in Mass Casualty Events* (available on the AHRQ Web site at <http://www.ahrq.gov/research/altstand/>) explored the issues and outlined the principles associated with the provision of medical care in the face of overwhelming numbers of casualties.

This planning guide is the product of a collaborative effort between AHRQ and the Office of Public Health Emergency Preparedness.

Organization of the Guide

This planning guide looks at issues and challenges in MCE response and preparedness issues across the spectrum of health care settings and provides recommendations for planners specific to each area. The planning guide begins with a discussion of the ethical and legal considerations and then discusses issues related to MCE planning in three care settings: prehospital, hospital and acute care, and alternative care sites (ACSs). This is followed by a discussion of palliative

care issues, which must be integrated throughout the planning for and response to an MCE. The planning guide concludes with a presentation of a case study: an influenza pandemic.

Ethical Considerations

We live in a world where a whole range of manmade and natural disasters are of increasing concern to communities across the Nation. Terrorism, epidemics, hurricanes, earthquakes, floods, and fires are all too possible in an industrialized and increasingly interdependent world. For this reason, serious and systematic disaster planning and preparedness at the community level are absolutely essential. If or when a disaster occurs, communities must be prepared for the possibility that the arrival of government assistance may be delayed. Indeed, potentially significant interruptions in the deployment of medical assistance may occur in certain kinds of events (e.g., pandemic influenza) or in situations in which several events occur simultaneously. Government agencies at all levels may be overstretched by multiple challenges and competing demands or have their ability to function degraded by catastrophic events.

Hurricane Katrina, for example, demonstrated that communications systems may be damaged or temporarily severed at the outset of a disaster. While such systems are being reestablished or put in place, local communities that have planned for such a possibility will have a head start on meeting community care needs.

Indeed, one reality is clear: communities that have not planned and prepared for such an eventuality will be less equipped to face the complexities of such an event than communities that have planned. Moreover, once a planning process is undertaken, it will become clear that serious ethical decisions are central to shaping any community's disaster response. It is important to realize that once a disaster strikes, difficult choices will have to be made, and the more fully the ethical issues raised by such choices are discussed prior to making them, the greater the potential for the choices to be ethically sound. The ethical issues and considerations in MCE planning are discussed in Chapter II.

Legal Issues

Laws at all levels of government are a critical part of emergency responses and allocation decisions involving scarce resources in an MCE. Legal issues that need to be considered in the context of MCE planning include understanding the changing legal landscape during emergencies, the balance of individual and communal interests, the suspension of existing legal requirements, interjurisdictional legal coordination issues, medical licensure reciprocity, liability and other protections for health care workers and volunteers, property management and control, and legal triage.

Chapter III contains a detailed discussion of relevant laws and their potential impact on the ability of planners to allocate scarce resources during an MCE.

Prehospital Care

In the event of an MCE, the emergency medical services (EMS) systems will be called on to provide first-responder rescue, assessment, care, and transportation and access to the emergency medical health care system. The bulk of EMS in this country is provided through a complex system of highly variable organizational structures. While efforts are ongoing to standardize EMS disaster training, no single oversight agency is responsible for ensuring consistency in training, certification, or guidelines for disaster response; the use of personal protective equipment; or the coordination of EMS response and operations.

The unique context in which EMSs operate in this country serves to amplify the challenges of providing emergency medical services in the context of an MCE. The issues and challenges of providing such services are discussed in Chapter IV.

Hospital and Acute Care

The overall goal of hospital and acute care response to an MCE is to maximize care across the greatest number of people while meeting at least minimal obligations for care to all who are in need. In the case of an MCE, however, hospitals will not have access to many needed resources. Thus, some of the most difficult decisions about providing an appropriate standard of medical care in an environment of scarce resources will be made in hospitals.

The major challenges that hospitals will face in an MCE include surge capacity issues, the fact that they are already at or near capacity for emergency and trauma services, a lack of on-call specialists and nurses, the need to coordinate between competing health care systems, incompatibilities in communications systems, and the need for security and protection, to name just a few. The issues related to MCE planning and response in the hospital sector are discussed in detail in Chapter V.

Alternative Care Sites

The impact of an MCE of any significant magnitude likely will overwhelm hospitals and other traditional venues for health care services. Indeed, it may render them inoperable, necessitating the establishment of ACSs for the provision of care that normally would be provided in an inpatient facility. Advance planning is critical to the establishment and operation of ACSs; this planning must be coordinated with existing health care facilities as well as home care entities. Planners must delineate the specific medical functions and treatment objectives of the ACS. The principle of managing patients under relatively austere conditions, with only limited supplies, equipment, and access to pharmaceuticals and a minimal staffing arrangement, is the starting point for ACS planning.

The issues and challenges of establishing and operating ACSs during an MCE, as well as specific case study examples of ACSs in operation during the response to Hurricane Katrina, are discussed in detail in Chapter VI.

Palliative Care

In the event of an MCE, it will be assumed that some people may survive the onset of the disaster but will have sustained such serious illness or injury that they will live only for a relatively short period of time. In addition, there will be vulnerable individuals (e.g., the elderly, those sick in hospitals, nursing homes, the disabled, children) who may be negatively impacted by the resulting scarcity of resources. In some instances decisions will need to be made to withdraw resources from those not likely to survive and shunt those resources to others.

The goal of an organized and coordinated response to an MCE should be to maximize the number of lives saved. At the same time, there should be a goal to provide the greatest comfort and minimize the psychological suffering of those whose lives may be shortened as a result of an MCE. These issues fall under the broad rubric of palliative care, which refers to the aggressive management of symptoms and relief of suffering.

The overarching issue of how to provide optimal support for the dying, those facing life-limiting illness or injury, and those caring for them must be integrated into initial planning efforts as well as addressed throughout the response to an MCE, as discussed in Chapter VII.

Case Study: Influenza Pandemic

The concepts, strategies, and approaches that planners need to consider in the context of an MCE highlighted in the chapters of the planning guide are applied to a specific case study scenario. The case study selected involves a potential influenza pandemic. The key issues that planners need to consider when faced with the challenges of allocating scarce resources in the context of a pandemic are presented in Chapter VIII.

MCE Advance Planning Themes and Recommendations

In the event of a catastrophic MCE, community planners will face the challenge of allocating scarce resources in a timely enough fashion to prevent undue illness and death. As the chapters of this guide indicate, in order to prepare for such an eventuality, planners need to focus on the following:

- **BE PROACTIVE.** Good planning must be undertaken ahead of time. Planners should anticipate to the degree possible the types of health care needs and resource shortfalls that will occur, and they must identify policy and operational adjustments that will need to take place in response.

- **BUILD AND MAINTAIN RELATIONSHIPS.** It is important to forge partnerships, memoranda of understanding, interhospital agreements, and other relationships with key stakeholders from the health care system, emergency management system, State and local public health systems, local emergency responders, emergency medical services, home health care, and other medical providers; volunteer agencies; public safety; and other public and private partners at all levels (State, local, regional, and Federal).
- **ESTABLISH REGIONAL AND LOCAL MULTIAGENCY COORDINATION.** Public and private health agencies, facilities, and responders must have a common vision within their cooperative regional area for how they will function during a disaster. Regional coordination may involve regions within a State or between States, particularly when a metropolitan area is situated in more than one State. Multiagency coordination may take the form of a planning committee, may be an extension of a Metropolitan Medical Response System, or may take another form. Regardless of the form it takes, the key is to provide a mechanism for cooperative coordination of activities, resources, and policy across multiple agencies and jurisdictions.
- **DEVISE, MODEL, AND EXERCISE MCE RESPONSE PLANS.** Plans must include ways to increase surge capacity in anticipation of large numbers of patients needing care in the face of scarce resources. Stakeholders should understand and practice the processes that responders and health facilities will use to request resources from each other, from supply vendors, from special stockpiles, and from emergency management contacts. Opportunities such as special events (e.g., major sporting events, political conventions) can be used to test disaster planning.
- **ESTABLISH CLEAR CHANNELS OF COMMUNICATION** to link the public health community, diverse health care entities, and emergency response systems. A process must be in place for sharing accurate, real-time situational information with involved stakeholders across multiple jurisdictions.
- **ESTABLISH CLEAR MESSAGES AND COMMUNICATIONS STRATEGIES** to inform the public about the status of the event and what actions they should take. It is important to work with the media, 9-1-1 dispatchers, special information phone lines, and other communications mechanisms to share clear and accurate messages.
- **EMPHASIZE PREVENTION.** Planners should recognize the preeminent value of prevention: this is particularly true in MCEs such as influenza pandemic, where a focus on prevention of transmission is critical to minimizing the burden of disease.
- **CLARIFY THE PROCESS FOR LEADERSHIP AND COORDINATION.** It is critical to identify leaders, alternates, and the decisionmaking process for resource allocation and policy guidance.
- **IDENTIFY EXISTING NATIONAL AND STATE TOOLS, PROTOCOLS, AND PROCESSES** for each phase of the MCE. Many products and resources have been developed to help plan for catastrophic events. Numerous examples of these are presented within the chapters of this guide.

CONSIDER THE LEGAL AND ETHICAL ISSUES RELATED TO PLANNING AND RESPONDING TO AN MCE.

Planners must be familiar with State emergency powers and have a solid understanding of what types of events or circumstances would trigger their implementation. Planners must also be familiar with the ethical principles that underlie decisionmaking for the allocation of scarce resources.

INTEGRATE PALLIATIVE CARE STRATEGIES ACROSS THE PLANNING PROCESS. Plans should be made for how to care for individuals who are not expected to survive the MCE and how to support the family members and others who are caring for them.

- CONSIDER THE FINANCIAL IMPLICATIONS OF RESPONDING TO AN MCE and the potential need to enact administrative or policy changes to facilitate reimbursement and recordkeeping obligations.
- CONSIDER VULNERABLE POPULATIONS. Explicit planning must occur at all levels for vulnerable populations including infants, children, the frail elderly, pregnant women, the disabled, the mentally ill, and special needs groups with chronic medical conditions (e.g., cardiac, dialysis, HIV and oncology patients). Prior experience has demonstrated that without explicit planning, the needs of these populations will not be adequately met.
- DEVELOP ROBUST SECURITY PLANS. Security is especially important in the case of a large-scale MCE due to the chaos and confusion it engenders. Having a uniformed presence (e.g., hospital security personnel, off-duty police officers, National Guard members, volunteers) helps maintain order as do clear identification tags; visiting rules; and procedures for accessing supplies, service sites, and patients.

Clearly, the optimal allocation of scarce resources in response to an MCE is unlikely to occur without proper advance planning at the health care facility, community, State, and Federal levels. Simply put, the goal of this planning guide is to promote and assist in those efforts.

Chapter I. Introduction

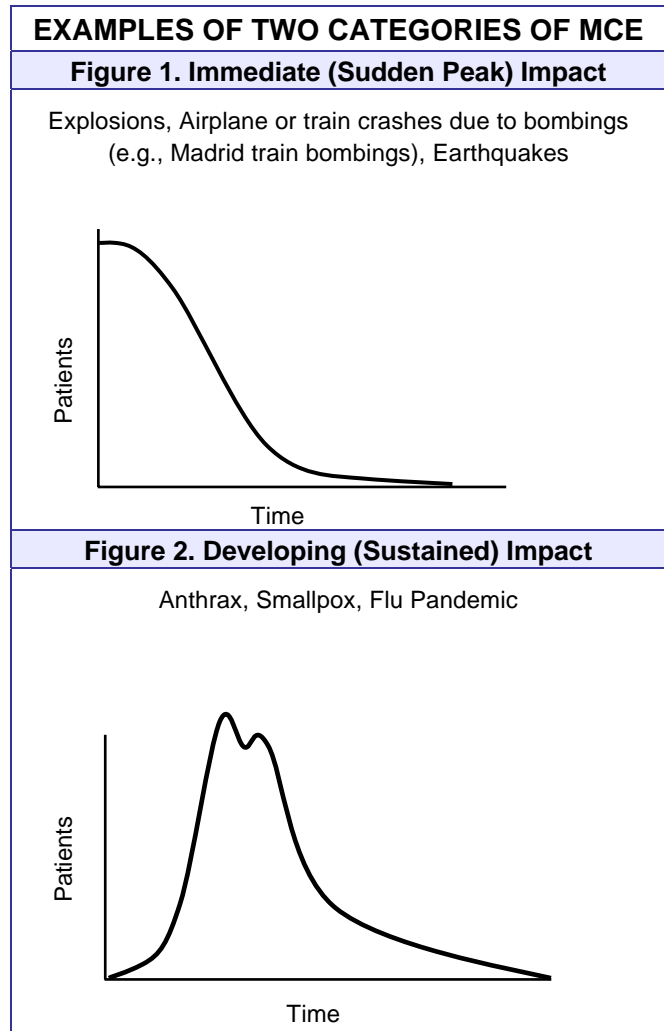
The Context: A Mass Casualty Event

In the event of a catastrophic public health or terrorism-related event, such as an influenza pandemic or the detonation of improvised nuclear devices, the result is likely to be tens of thousands of victims whose needs will overwhelm the resources of a community's health care system. Indeed, if the event incapacitates health care workers, damages facilities, or destroys supplies, the capacity of the health care system to respond to the tremendous surge in demand for its services already may be severely compromised. If other communities are faced with similar demands (as would be the case in an influenza pandemic or a nuclear detonation, for example), the arrival of additional health care resources, including assistance from the Federal Government, likely would be significantly delayed. Additional resources may not arrive at all.

In this dire scenario, which we refer to as a mass casualty event (MCE), it will be necessary to allocate scarce resources in a manner that is different from normal circumstances but appropriate for the situation if the health care system is to remain functioning and save as many lives as possible. Making optimal decisions concerning the allocation of scarce resources in an MCE could make a big difference in the degree to which health care systems continue to function; ultimately it could save many thousands of lives.

Types of MCEs

In general, MCEs can be organized into two categories: (1) those that result in an immediate or sudden impact and (2) those that result in a developing or sustained impact. A schematic representation of the two types of MCE is shown in Figures 1 and 2; this is for illustrative purposes only, as the duration and magnitude of the two events would vary.



The first category of MCE includes events such as the detonation of a bomb or a series of dirty bombs, airplane or train crashes as a result of bombings, and earthquakes. This immediate impact category is characterized by large numbers of casualties at the outset of the event that

generally taper off. In some cases there may be a second wave of casualties due to depleted resources or such factors as secondary exposure to natural elements, unclean water, and contagious diseases.

The second MCE category features events such as a massive exposure to anthrax or smallpox. Another example of this second type of MCE, and one that we discuss in detail in Chapter VIII of this guide, is the potential case of an influenza pandemic, in which there would be a gradual increase in the number of people affected, rising to a catastrophic number of patients. In this type of MCE, the number of cases may decline due to treatment and prophylactic efforts, for example, only to increase due to reinfection with a different strain or as a result of an additional wave or waves of the disease. This second type of MCE would necessitate a more sustained response, as the impact would be felt over a much longer period than the immediate-impact MCE.

Planners also need to consider situations in which the event destroys essential infrastructure (such as a nuclear detonation or natural disasters such as Hurricane Katrina), resulting in a crisis requiring a mass migration of survivors. In such circumstances, the delivery of basic care should be contingent upon the recognition that all victims of a disaster should be accorded basic humanitarian rights, including the “right to life with dignity.” In the international disaster response arena, the Sphere Project has developed “minimum standards” in six critical areas – water supply, water sanitation, nutrition, access to food, shelter, and health care services – required for all victims of disaster. It would be useful to consider these minimum standards in the context of MCE response planning.

The Sphere Handbook is available on the Web at: <http://www.sphereproject.org/handbook/>.

It is also important for planners to consider relaxation of standards for emergency medical services (EMS), for instance, when and if these resources are scarce or unavailable. This approach would greatly

facilitate evacuation of survivors, which may be the primary life-saving intervention. Such relaxation of standards might include reducing the number of personnel required per vehicle, using nonstandard vehicles, and using non-professionals as volunteer drivers, for example.

Planners also need to consider relieving pressure on EMS systems during an MCE by using call centers (such as poison centers, nurse advice lines, public health hotlines, etc.) to answer the public’s questions and address their concerns. These issues are discussed further in Chapters IV and V of this guide.

Planners should recognize an important distinction in the level of preparedness between the two types of MCEs. The sudden impact MCE -- explosions and train bombings, for example -- is unpredictable, and requires an immediate response in terms of the need to triage and temporize until the necessary resources arrive. In the case of a developing MCE, the rising numbers of victims poses significant resource problems if the MCE is nationwide. The impact of an

influenza pandemic, for example, could be considered predictable, and preparedness planning efforts could be made to mitigate its impact through prevention and public education.

Thus, planners need to be aware of the important distinctions between the two types of MCEs, as well as the implications of these distinctions in terms of the demands on the health care system and the type of response required. Regardless of the type of MCE for which planners are preparing, however, planning must occur prior to the event.

Advance Planning – Guiding Principles

Regardless of the type of MCE, advance planning is critical. Thus, the purpose of this guide is to provide State and community planners with information, recommendations, and resources that can encourage and support MCE planning efforts.

To inform the development of this guide, the authors referred to the recommendations of a 2004 expert panel,¹ which articulated five principles that should steer the development of MCE response plans (see box).

These guiding principles have served as the framework for the development of this planning guide. They have helped formulate the topics of specific chapters and also are applied across all chapters.

PRINCIPLE #1 has set the foundation for each chapter’s discussions within the context of the fundamental tenets of maximizing good outcomes for the greatest number of people while having agencies, organizations, and individuals act in good faith to meet their duties and obligations in the face of an MCE. This first principle provides the underpinnings for the ethical, legal, and practical planning considerations relating to the allocation of scarce resources in a catastrophic situation. Discussions regarding this principle have included the question of what becomes of those individuals who cannot be saved or are not expected to survive as a result of the MCE episode itself or because of the lack of resources. Thus the issue of providing palliative care to the individuals who cannot be saved has been integrated into planning considerations

Guiding Principles
Principle #1: In planning for an MCE, the aim should be to keep the health care system functioning and to deliver acceptable quality of care to preserve as many lives as possible.
Principle #2: Planning a public health and medical response to an MCE must be comprehensive, community based, and coordinated at the regional level.
Principle #3: There must be an adequate legal framework for providing health and medical care in an MCE.
Principle #4: The rights of individuals must be protected to the extent possible and reasonable under the circumstances.
Principle #5: Clear communication with the public is essential before, during, and after an MCE.

throughout this guide and also constitutes a separate chapter (VII).

PRINCIPLE #2 touches on an underlying reality of disaster management, which is that catastrophic events need to be handled at the lowest possible geographic, community, and jurisdictional levels with clear advance plans for the local and regional coordination of available services, staff, and resources. The themes of comprehensive incident management, coordination, and regionalization are central for MCE planning, and they are discussed throughout the chapters of this planning guide.

PRINCIPLE #3 addresses legal issues associated with providing care in an MCE and the resulting decisions regarding the allocation of scarce resources. These issues are the focus of Chapter III.

The rights of individuals, which are addressed in **PRINCIPLE #4**, constitute the basis of Chapter II. That chapter looks at the ethical issues involved in planning and responding to MCEs.

The importance of **PRINCIPLE #5**, communicating with the public, is recognized throughout numerous considerations and recommendations related to managing the “worried well,” sharing reliable information and instructions with the public, and emphasizing the role of home care and individuals in supporting the health care demands of an MCE. In addition, the issue of developing and testing communication mechanisms to link MCE responders, health systems and institutions, public health, and local authorities also constitutes an area of focus throughout this guide.

Advance Planning – Overarching Themes and Recommendations

In the event of a catastrophic MCE, whether an immediate or a developing one, community planners will face the challenge of allocating scarce resources quickly enough to prevent undue illness and death. As the following chapters of this guide indicate, to prepare for such an eventuality planners need to take several steps.

BE PROACTIVE. Good planning must be undertaken ahead of time. Planners should anticipate to the degree possible the types of health care needs and resource shortfalls that will occur, and they must identify policy and operational adjustments that will need to take place in response. Many useful planning lessons can be learned and applied from real case responses to natural and manmade events in the United States and abroad (e.g., Hurricanes Rita and Katrina in the U.S., the London public transport bombings, the Madrid train bombing, the 2004 tsunami in southern Asia).

BUILD AND MAINTAIN RELATIONSHIPS. It is important to unite and forge partnerships, memoranda of understanding, interhospital agreements, and other relationships with key stakeholders from the health care system, emergency management system, State and local public health systems, local emergency responders, emergency medical services, home health care, and other medical

providers; volunteer agencies; public safety agencies; and other public and private partners at all levels (State, local, regional, and Federal).

ESTABLISH REGIONAL AND LOCAL MULTIAGENCY COORDINATION. Public and private health agencies, facilities, and responders must have a common vision within their cooperative regional area for how they will function during a disaster. Regional coordination may involve regions within or between States, particularly when a metropolitan area is situated in more than one State. Multiagency coordination may take the form of a planning committee, may be an extension of a Metropolitan Medical Response System, or may take another form. The key is that it provides a mechanism for cooperative coordination of activities, resources, and policy across multiple agencies and jurisdictions.

DEVISE, MODEL, AND EXERCISE MCE RESPONSE PLANS. Plans must include ways to increase surge capacity in anticipation of large numbers of patients needing care in the face of scarce resources. Stakeholders should understand and practice the processes that responders and health facilities will use to request resources from each other, from supply vendors, from special stockpiles, and from emergency management contacts. Opportunities such as special events (e.g., major sporting events, political conventions) can be used to test disaster planning. Plans should be modified and refined continually based on input and lessons from response partners, exercises, and changing conditions.

ESTABLISH CLEAR CHANNELS OF COMMUNICATION to link the public health community, diverse health care entities, and emergency response systems. A process must be in place for sharing accurate, real-time situational information with involved stakeholders across multiple jurisdictions.

ESTABLISH CLEAR MESSAGES AND COMMUNICATIONS STRATEGIES to inform the public about the status of the event and what actions they should take. It is important to work with the media, 9-1-1 dispatchers, special information lines, and other communications mechanisms to share clear and accurate messages such as the status of the MCE, how individuals should protect themselves and others, when it is safer to stay home, how to provide the best possible care at home, where to go for particular services, and when to go or not go to the emergency room.

EMPHASIZE PREVENTION. Planners should recognize the preeminent value of prevention: this is particularly true in MCEs such as an influenza pandemic where a focus on prevention of transmission is critical to minimize the burden of disease.

CLARIFY THE PROCESS FOR LEADERSHIP AND COORDINATION. It is critical to identify leaders, alternates, and the decisionmaking process for resource allocation and policy guidance.

IDENTIFY EXISTING NATIONAL AND STATE TOOLS, PROTOCOLS, AND PROCESSES for each phase of the MCE. Many products and resources have been developed to help plan for catastrophic events. Numerous examples of these are presented in the chapters of this guide.

CONSIDER THE LEGAL AND ETHICAL ISSUES RELATED TO PLANNING AND RESPONDING TO AN MCE.

Planners must be familiar with State and local emergency powers and have a solid understanding of what types of events or circumstances would trigger their implementation.

INTEGRATE PALLIATIVE CARE STRATEGIES ACROSS THE PLANNING PROCESS. Plans should be made for how to care for individuals who are not expected to survive the MCE and how to support the family members and others who are caring for them.

CONSIDER THE FINANCIAL IMPLICATIONS OF RESPONDING TO AN MCE and the potential need to enact administrative or policy changes to facilitate reimbursement and recordkeeping obligations. Take into account any funding from the Centers for Disease Control and Prevention's Public Health Emergency Preparedness program and Health Resources and Services Administration National Bioterrorism Hospital Preparedness program.

CONSIDER VULNERABLE POPULATIONS. Explicit planning must occur at all levels for vulnerable populations including infants, children, the frail elderly, pregnant women, the disabled and the mentally ill, and those with chronic medical conditions (e.g., cardiac, dialysis, HIV, and oncology patients). Experience has demonstrated that without explicit planning, the needs of these populations will not be adequately met. Planners must ensure that appropriate expertise is included; and that they understand that specialty caregivers are valuable resources. Specific pediatric issues planners must consider include:

- Children have physiologic, anatomic, developmental, and emotional differences that require appropriate planning and equipment.
- The overwhelming effect of caring for children on the emotions of our health professionals must be appropriately managed.

DEVELOP ROBUST SECURITY PLANS. Security is especially important in the case of a large-scale MCE due to the chaos and confusion such an event engenders. Having a uniformed presence (e.g., hospital security personnel, off-duty police officers, National Guard members, volunteers) helps maintain order as do clear identification tags; visiting rules; and procedures for accessing supplies, service sites, and patients.

Clearly, the optimal allocation of scarce resources in response to an MCE is unlikely to occur without proper advance planning at the institutional, community, State, and Federal levels. Simply put, the goal of this document is to promote and assist in those planning efforts.

Organization of the Guide

This planning guide is organized as follows:

- Chapter II contains a discussion about the **ETHICAL ISSUES** that must be taken into consideration by planners.

- Chapter III highlights the [KEY LEGAL ISSUES](#) that must be considered in developing a plan for responding to an MCE.
- The succeeding three chapters (Chapters IV, V, and VI) examine the important issues, considerations, strategies, models and tools related to MCE planning at [THREE DIFFERENT SITES/SETTINGS: PREHOSPITAL CARE, HOSPITAL AND ACUTE CARE SETTINGS, AND ALTERNATIVE CARE SITES](#).
- Chapter VII discusses the issues and approaches associated with providing [PALLIATIVE CARE](#) to the dying or individuals who are not expected to survive and offering support to the people who care for them during MCEs.
- Finally, Chapter VIII pulls key issues and strategies from all of the previous chapters and summarizes them in the context of an [INFLUENZA PANDEMIC CASE STUDY](#).

It is hoped that the information and material presented in this guide will enable community planners to prepare effective MCE response plans.

Endnote

Altered Standards of Care in Mass Casualty Events: Bioterrorism and Other Public Health Emergencies. AHRQ Publication No. 05-0043, April 2005. Agency for Healthcare Research and Quality, Rockville, MD. Available at: <http://www.ahrq.gov/research/altstand/index.html>.

Chapter II. Ethical Considerations in Community Disaster Planning

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This chapter discusses the range of ethical issues that are critical to shaping any community's disaster response planning as well as the implementation of those plans. The chapter explores what it means to plan for and act ethically in a disaster situation and underscores the importance of advanced planning for making choices that are ethically sound.

Context for the Discussion

We live in a world where a whole range of manmade and natural disasters (and cases that mix the two) are increasingly of concern to communities across America. Terrorism, epidemics, hurricanes, earthquakes, fires, floods – all of these are all-too-possible in an industrialized and inter-dependent world. Our settlements increasingly impinge on inherently risky terrain, such as over fault lines or on barrier islands. Ever-improving worldwide transportation and communication systems increase our vulnerability to those motivated by destructive ideologies. These same systems also make possible the “jet spread” of new infectious disease – as Toronto found out during the SARS outbreak.

In such a world, serious and systematic disaster planning and preparedness at the community level is essential. If a disaster does occur, communities must be prepared for the possibility that government assistance may be delayed or may not arrive at all. Government agencies may be overstretched by multiple challenges or have their ability to function degraded by catastrophic events.

One reality is clear. Communities that have not planned and prepared for such an eventuality will be less well equipped to face its complexities than communities that have. The noted political scientist Richard Neustadt once wrote, “Crises are a bad time to do planning. Only if plans are developed in advance, and then critiqued, rehearsed, and refined, will various agencies and actors be able to respond effectively to a disaster.”

Serious and systematic disaster planning and preparedness at the community level are absolutely essential.

Once a planning process is undertaken, it will become clear almost immediately that serious ethical decisions are central to shaping any community’s disaster response. This will be true both of the planning phase and the implementation phase. At the planning phase, there will be innumerable issues, each with its own ethical components. Who do we protect, and to what level of safety? How do we set budgets and priorities? Answers arrived at during the planning stage should be based on ethical analysis that can provide guidance during implementation even if the planned solutions must be altered in real time. Other issues include: Who do we evacuate first? How do we deal with those who don’t want to cooperate? When do we stop expending resources on rescue efforts and shift to recovery mode? The way these questions are answered reflects the ethical perspectives and moral analysis strategies of the planning group(s).

We also need to expect that planning will be imperfect. Unexpected events will occur. Operational failures will develop. Those with field responsibility will have to make on-the-spot decisions that will require ethical judgments. For that reason, it is important that ethical considerations are made explicit during the planning process so that when on-the-spot decisions

must be made they can be made consistent with the spirit of the ethical judgments that guided the planning process.

Ethical Ideas as a Resource for Disaster Preparedness

Human beings have been thinking and writing about ethics in general, disaster management in particular, and the application of ethical ideas to public policy for as long as we have been thinking and writing. Literally 5,000 years ago, the Egyptians struggled with their idea of *maat* – by which they meant the appropriate good order of society – and the role of the Pharaoh in preserving or restoring that when the annual Nile floods got out of hand.

In the 19th century, various thinkers began to try to apply technical and scientific reasoning to public policy problems. French engineers argued that the value of a bridge across the Seine was what people would pay for it, even if they in fact paid nothing because the bridge was free. Florence Nightingale tried to convince the British government to improve medical care for wounded people in the Crimean War by showing that the cost of replacing a soldier was greater than the cost of saving one. These ideas found clear expression in the English philosopher Jeremy Bentham's utilitarian claim that public policy should maximize the good across the greatest number. Utilitarian theory, or what is often referred to as consequentialist ethics, assesses what is right or good based on whether the consequences of the actions to be taken will be good.

Another strand of thought, arising contemporaneously and in opposition to consequentialist ethics, is the duty-based ethical perspective. Advanced most notably by Immanuel Kant and referred to formally as deontology, duty-based ethics focuses on non-consequentially based notions of good. In duty-based ethics, deciding what is right or good is based on meeting duties and obligations.

Both theoretical perspectives have obvious applicability to planning for mass-casualty situations. Both have weaknesses, however, that need to be taken into account when either is invoked as a justification for proposed policy. Consequentialism suffers from two main weaknesses. First, it is difficult to predict consequences. Especially under emergency conditions, reality often looks little like what was expected. Second, in maximizing the good across the greatest number, the rights and welfare of the few can be ignored, or worse, trampled. Duty-based ethics provides a counterweight but one that is imperfect, also. The main weaknesses of uncritical application of duty-based justifications are that duties and obligations are difficult to delineate and even when they can be, they invariably conflict. In planning for a mass disaster, for example, it will be difficult for communities to clarify the scope of obligations for the multiple players involved. Even where duties and responsibilities are clear, it is likely that persons and organizations will have conflicting duties, such as physicians to patients as well as to their own families.

Nonetheless, applying these theoretical perspectives in systematic ways can address our contemporary concerns for upholding important ethical principles and values, such as fairness and equity, and for the role such principles and values play in disaster preparedness. Making explicit and transparent the ethical perspectives raised during the planning process can build commitment to any plan that is created.

As this overview suggests, the ethical ideas that are widely shared in our culture are neither simple nor consistent. It is easy to invoke the notion of the greatest good, but attempting to maximize the good while providing universal assistance is a complex task indeed. That is, how do we incorporate the various appreciations of doing good into concrete policies in disaster preparedness planning? For example, do we measure “good” by lives saved or years of life saved? Our priority setting would be very different depending on how we answered that question. The same is true of concerns about “rights” and “fairness.” How much are we obligated to spend to save people from a flood who refuse to evacuate when told to do so?

How do we balance maximum gain against fairness when these conflict? Such decisions need to be based on sound ethical judgment. All of this implies that using ethical ideas to guide disaster

“How do we balance maximum gain against fairness when these conflict [with rights]?”

preparedness is a complicated business. The process will inevitably involve judgment and compromise. The broad ideas will have to be made applicable to specific contexts, refined, and defined

in operational terms. And these realizations have important implications for what communities need to do, in both planning and implementing disaster plans, if they are to act in an ethically responsible manner.

What Would It Mean to Plan for and Act Ethically in a Disaster Situation?

The ethical obligations of the professionals in a community responsible for disaster planning and preparedness obviously begin well before any disaster actually occurs. The first of these has to do with what might be called “ethical preparedness.” We have noted the ambiguity and conflict inherent in some of the principal ethical norms that planners might want to invoke to guide their actions. This implies that waiting for a disaster to occur to face these challenges is to wait too long. We all know that buses or radios or vaccine stores cannot be conjured up at the last minute. By the same token, the reality of a catastrophic event will play out differently than could have been imagined so that tough choices will have to be made in the midst of crisis. Sound planning can take this expectation into account by providing ethical guidelines and principles for making tough choices in a real-time environment.

Thus, it is advisable that the planning process anticipate judgments that will have to be made and then model making such judgments explicit and shared widely. Applying and practicing applying such transparency serves multiple purposes. First, like any other “strategy” or “mission”

statement, being open about guiding ethical principles can be an important management tool. It can serve to coordinate activity and produce more consistent implementation when decisionmaking has to be decentralized to frontline workers and their supervisors. And that will often be the case in a disaster situation.

Transparency also serves the goal of accountability. Priority-setting judgments are not purely technical matters. In a democratic society, citizens have a right to know what decisions public institutions make on their behalf – especially when the stakes are high as in the life-or-death choices a disaster can produce. Such public knowledge also serves to open the process to public feedback, criticism, and discussion. This can help professionals ensure that their plans reflect community values and concerns.

Public discussion also serves the vital purpose that some have called “democratic education” or “civic capacity building.” Only when the public openly discusses and debates difficult choices does the capacity of community members to fulfill their roles as “citizens” become appropriately enhanced. We can expect the public to accept and support difficult choices in difficult times only if they have become knowledgeable about and committed to those choices beforehand and if they feel they have had some input into the process. Transparency is a prerequisite to such outcome.

Transparency alone, however, will not suffice. The processes for making decisions themselves also have to meet their own ethical tests. Here, two ideas about democratic participation seem especially relevant. First is the need for the collaborative involvement of elected officials from all levels of government with local planners and citizens groups. Elections are, after all, the method democracies use to choose their leaders and, in the process, to resolve important value controversies. Different from the role of governmental agency officials is the equally important role of technical experts. Technical expertise is essential for clarifying options and being clear about alternatives. But what technical experts are expert about is the science: how influenza viruses are likely to mutate, the storm resistance of levees, or the atmosphere transport of radioactivity. They are not “moral experts.” When it comes to making ethical judgments under stressful and complex conditions in which diverse value perspectives must be harmonized, technical expertise confers no special moral importance during ethical discussions. For community commitment to congeal around a disaster preparedness plan that will include judgments about complex moral problems such as tradeoffs between cost-effectiveness and fairness or the relative importance of prioritizing attempts to save one population group before another, we rely on politics – the combined actions of those we elect, those who are appointed, and local citizens working together.

“Judgments should be made explicitly and shared widely.”

Responsible elected leaders do need input, however, both on the science and on community values. Elected bodies (city councils, State legislatures) have their virtues and values in this regard. Further, there will be a role for more direct citizen participation. What is at issue here is

an opportunity for discussion among a cross-section of community leaders, both those with a special competence and responsibility and those with an especially large stake in disaster planning decisions. Such a group can bring knowledge, sensitivity, and realism to the process that more general political bodies do not possess.

It is vital to remember that all community planning and participatory processes are subject to certain risks. One risk is that those groups with more resources or expertise will dominate. Another risk is that some will seek to hold up the process by refusing to cooperate unless their narrow demands are met. All this suggests a need for careful planning, effective outreach, impartial staff support, and other now well-understood prerequisites if the right kind of discussion is to occur.

The ethics of disaster planning apply not only to the process but also to the plan itself. In fact, almost all participants in the planning process face conflicting interests, if not frank conflicts of interest. Politicians seek political support, caregiving institutions want additional resources, and various first responder agencies (State and local, police and fire) will maneuver for authority and leadership. The standard to which the resulting plan should be held *is not* that of meeting any one player's interests. Rather, the standard should be whether it meets some broader ethical tests and concerns, as we discuss further below.

Only a plan that transcends narrow interests will convince citizens that the public leadership entrusted with disaster preparedness is meeting its responsibilities. Those responsibilities include not just the exercise of technical

“competence” but what the economist Kenneth Arrow called “conscience,” while he was discussing clinical medicine, an argument that applies similarly here. A doctor or a disaster manager knows more

“Only a plan that transcends narrow interests will convince citizens that the public leadership entrusted with disaster preparedness is meeting its responsibilities.”

than his or her patient or the at-risk public. As a consequence, the manager asks his or her experts to act as his or her “agents.” This means asking the expert to make decisions in keeping with the goals and values of the “principal” who retains them. And “conscience” is required when the agent has to disregard his or her own interests to fulfill the trust placed in the agent; for example, by not ordering an unnecessary test or by risking one's own life in a burning building. As Woodrow Wilson said about the treaty to end World War I, “Open covenants openly arrived at” serve everybody's interests.

Perhaps one of the most important roles of effective planning is to appropriately shape citizen expectations. For when leaders are not realistic, government's performance fails to live up to expectations, and citizens' trust in collective responses to community problems seriously erodes. Realistic plans and expectations, in contrast, can build public trust. The government then can meet those expectations, and a community's belief in its own capacity is thereby enhanced.

The resulting “social capital” (to use Robert Putnam’s phrase) is a valuable resource that communities will surely need if, or when, a real disaster does occur.

Addressing the Ethical Aspects of Emergency Preparedness Planning

When planning for emergencies, whether related to terrorism, epidemics, hurricanes, earthquakes, fires, floods or any other manmade or natural cause, the quality of the planning process will contribute markedly to the degree of preparedness and response success. Given that preparedness planning is complex and must involve all layers of public institutions and private citizenry, there will be disagreements about how best to organize, plan, and implement emergency response strategies. Any disagreement that arises will spring, in large part, from differences in ethical judgments. Explicit awareness that disagreement involves moral disputes is a requisite starting point for resolving ethical differences in ways acceptable to the needs of planners and citizens.

It is critical that all parties appreciate that moral disagreement is not only inherent to the planning process but necessary for a sound outcome. In the event of an emergency, multiple institutions, agencies, and individual citizens will have to be committed to implementing the plan. There must be a spirit of cooperation. Prospects for such commitment and cooperation are strengthened when the various parties believe that the planning process has been conducted ethically. Acceptance of this point is required for an appropriate process to be created that allows for vigorous deliberation. A truly ethical planning process will be in place only through a process that builds in mechanisms for managing ethical disagreement and the deliberative conversations necessary to work through the disagreements.

The first building block in addressing the ethical aspects of preparedness planning is creating planning groups that comfortably tolerate vigorous debate. Given that most persons and groups tend to avoid open conflict, the leaders of preparedness planning groups must have sufficient emotional strength and group dynamics leadership skills to competently surface the moral disagreements that will invariably exist across group members and then ride the waves of argumentation until a reasonable moral consensus is built. In so doing, provided that the group is sufficiently inclusive and their work transparent, the resultant plan can be expected to have solid commitment from those that group members represent. Even if there are particular group members who did not get everything they wanted, a well argued agreement coming out of a seriously and thoughtfully deliberated ethical disagreement will garner the needed sense of fairness for future cooperation to be a reasonable expectation.

A good disaster plan, however, does more than just explicitly confront tough choices. A good plan also will minimize the need for such choices by putting adequate resources and effective arrangements in place. In desperate situations, resources will indeed be overwhelmed. Moreover,

“A good plan also will minimize the need for [tough] choices by putting adequate resources and effective arrangements in place.”

resources are always scarce. Preparedness has to compete with schools and prisons and highways and environmental protection for limited public dollars. There never will be enough money to do everything. But the better the plan, the less wrenching and difficult it will be to carry out

that plan when adverse events do occur. And in that sense, disaster planners need to defend both their own interests and those of their communities through the planning process.

Ethical Principle I: Focus on Consequences

As noted previously, often the first ethical principle invoked in disaster situations is Bentham’s “greatest good for the greatest number,” which is commonly interpreted as requiring us to save the most lives. But again, “The devil is in the details.” Do we measure “good” by lives, or years of life, or quality-adjusted years of life? If we use years of life, the young take precedent over the old. At any given age, the healthy would be saved before the sick and women before men – since the former has a longer life expectancy than the latter.

Those who pursue a utilitarian approach to policy development define the “good” strictly in terms of maximization of benefits for the many. In the case of utilitarian economists, for example, most want to measure “good” subjectively – based on how people feel about various alternatives as expressed in their market choices. Thus, if someone prefers to remain in his or her home during a hurricane, some economists would say that that represented the “greatest good” for that individual.

Public health specialists, engineers, and disaster managers who also have a philosophical preference for consequentialist analysis tend to focus on objective measures of the “good” of the “greatest number” – on lives saved or safety margins or probabilities. This contrast helps us understand what is at issue whenever someone asks, “Why can’t I build my house in a flood plain if I am willing to take the risk?” Disaster planners in this case are confronting someone who believes that decisions on what is good are best decentralized to the individual. One consequentialist way for disaster planners to proceed is to pick some metric of gain and then to design plans to produce maximum “expected value.” (For each possible choice, consider the weighted sum of the gains produced by each possible outcome – with the outcomes weighted by their probabilities. Then take the choice when that magnitude is greatest.) A considerable field of literature in areas like decision theory and operations research addresses the technical details of using this approach – on choosing metrics, assigning values, and estimating probabilities.

Uncritically applying a utilitarian understanding to such values preferences, however, will not capture the breadth of ethical assumptions embedded in planning approaches to addressing this concrete prospect. Moreover, there are limits to the appeal of the impartial brutality of “the greatest good” approach – even in a disaster situation. Much real planning and decisionmaking revolves around other ethical ideas. We need to understand these as well to be better equipped to provide for effective disaster preparedness.

Ethical Principle II: Focus on Duties and Obligations

Utilitarianism is often not the only basis for much public policymaking. For example, our willingness to restrict, or not, individual choice both before and during a disaster can have a utilitarian justification but it is just as likely to be deeply influenced by duty-based concerns. The core idea here begins with the need to respect all human beings. Different writers root that respect in either a religious argument (the possession of an immortal soul) or a secular one (the human capacity for reasoned choice). Regardless of its origins, however, that respect is said to require us to treat every human being as “an end in themselves” (to use Kant’s famous phrase). This means we cannot sacrifice some for the sake of others – unless they volunteer. For example, economists argue for individual choice in part because they presume that each person’s decisions affect only themselves. Many disaster-related decisions, however, have what economists call “externalities” – they affect others beyond the decisionmaker. In particular, those who build in flood plains or refuse to follow evacuation orders may impose the cost of expensive search, rescue, and recovery efforts on the community.

Deciding how and why to divert resources from some sector of community need to others will rest not only on predictions of what will produce the best outcome for the most persons, but should also include considerations of how the resource distribution process will work to assure that obligations citizens vest in their Federal, State, and local governments are met. This balancing between utilitarian and duty-based assumptions is at work in our ethical considerations about allocating scarce influenza immunizations. A policy aimed at “lives” would give priority to the old and the sick, since they are most at risk from influenza. A policy aimed at “years of life” might be somewhat different – prioritizing the vulnerable young. A policy that took account of economic consequences would raise the priority of workers who mattered most in economic terms (too bad for the unemployed). The potential real world outcomes of balancing and interweaving these two ethical perspectives are highlighted in thinking about influenza vaccination of health care providers. In a serious crisis, those health care workers who cared for influenza patients might get priority – on the grounds that each of them could save several other individuals through their care. If we were serious about such a rationale, however, cardiac surgeons and other subspecialists would be further down the queue because it might plausibly be reasoned that the obligation to provide primary care to our most vulnerable citizens comes before performing more resource-demanding procedures, regardless of the numbers in either group.

In practice, our sense of humanitarian responsibility will not allow us to ignore “stay-behinds” or refuse rebuilding help to those whose houses have come to grief in a storm because of shared cultural understandings of obligations that governments have to citizens and that neighbors have to neighbors.

Ethical Principle III: Rights and Fairness

In addition to having any disaster preparedness planning process make explicit consequentialist and duty-based theoretical notions, refined understandings of what is meant by rights and fairness will be needed as well. Just as most decisions will include some mix of consequentialist and duty-based justifications, most decisions will include a complex of intertwined notions about rights and fairness.

At least in western philosophical traditions, “rights” refers to the belief that human beings have universal rights regardless of jurisdiction or other characteristics such as gender, ethnicity, or religious belief. Such rights are often defined by international and national laws and legislation. The difficulty for communities engaged in disaster preparedness planning is that one common criticism of rights thinking is that rather than being truly universal, or universalizable, it is prone to cultural relativity. For example, universal primary school education or health care insurance is considered by some nations a right of all their citizens. In other nations they are not seen as such. Laws and social programs, however, have boundaries while mass disasters do not. Moreover, rights and the perceived responsibility of an agency, organization, or individual, will differ across State, national, and continental borders. The same problem arises in focusing on defining the concept of fairness. Nonetheless, preparedness planning groups will need to devote substantial effort in coming to at least their own definitions for these ethical principles if they are to devise plans to which the affected communities can commit.

For example, the rights arguments have moved from just advocating the “negative” right to be left alone to concentrating more forcefully on a relatively expansive set of “positive” rights. These rights involve the expectation that the government will ensure everyone some minimum scope of opportunity for living a meaningful life. Indeed, most governments in industrial countries help their citizens – to varying degrees – with food, housing, education, and health care based on such arguments. And such efforts are often focused and financed in a way that is redistributive. Quite typically, upper-income groups cross-subsidize lower-income groups based on notions of “fairness” and “social responsibility” (or, in Europe, “solidarity”).

These notions are almost certain to come into play when disaster planners face issues of priority setting. For example, any consideration of property values, in allocating resources, would dictate that less attention be paid to low-income neighborhoods. And yet, as Katrina demonstrated, it is likely to be poorer residents who have the fewest resources of their own and who therefore are most in need of public assistance.

Once issues of fairness or equity are accepted as relevant, it is still necessary for community leaders to decide what fairness requires of them. One view (sometimes called “relative equity”) is that any difference in treatment (or in this case, say, of risk) is inherently unacceptable. An alternative perspective (termed “absolute equity”) requires governments to provide some minimum level of opportunity to all citizens. If that goal is achieved, then on this second view, the rich or talented can be allowed to have opportunities above the minimum level.

In fact, disaster preparedness almost inevitably has to be concerned with “absolute” equity – with providing some minimum level of protection to all. Inevitably, those with stronger houses, houses on higher ground, or money for comfortable hotels out of town will do better than some of their fellow citizens. Thus, one of the questions planners will have to focus on is not whether any differences exist, but whether appropriately delineated obligations have been met for those segments of the population where such differences result in disproportionate harms.

Of course, just what those obligations are will be a matter of much debate. Again, open processes, explicit decisions, transparent reporting, and political accountability – all of these become especially important when such difficult issues have to be decided.

“In a crisis, it might well be that the poorest communities are the ones most in need of help from a State’s National Guard assets, exactly because they have fewer of their own resources to rely on.”

Here also is where the decentralized structure of disaster preparedness can become somewhat problematic. Poor jurisdictions are likely to have less in the way of equipment, personnel, and financial reserves than their more prosperous counterparts. Fairness in such cases may require that planners at the

regional or State level take account of these realities when decisions are made about allocating resources from higher-level jurisdictions. For example, in a crisis, it might well be that the poorest communities are the ones most in need of help from a State’s National Guard assets, exactly because they have fewer of their own resources to rely on.

Ethical Principle IV – Respect Community Norms

While consequences, duties, rights, and beliefs about what is fair often dominate discussions of public policy, these ideas do not exhaust the ethical considerations that are potentially relevant in such situations. In addition, there is the question of respecting the particular norms and values of a community.

The ideas we have been considering so far are avowedly universalistic in their claims. Their proponents say they apply to everyone, everywhere. There are also ethical ideas that are particular to a given society and express the society’s particular sense of itself as a whole or of its separable communities. These, too, have a role to play in disaster preparedness.

One of the most important areas in which such local norms apply is in our expectations of first responders and other disaster personnel. There are many examples of situations where rescue personnel put their own lives in danger on behalf of others or for the greater good of the community. The large number of police and fire casualties in New York on 9/11 testifies to the power of these ideals.

Indeed, when disaster managers try to implement “greatest good” policies, often it is front-line personnel, imbued with professional pride and responsibility, who resists. Experienced senior firefighters will tell you that one of their most difficult tasks can be to get their people out of a compromised structure when that becomes the prudent course of action.

On the other hand, some societies have high expectations of even unwilling disaster professionals. During the SARS epidemic in Hong Kong, doctors and nurses at the designated receiving hospital were quarantined inside the building (including some who were confined unwillingly). Several of the staff members of that hospital died in the epidemic.

Another example of the power of the particularity of social ethical norms is revealed by the very high expenditure made post-Katrina on recovering and identifying those who died. While no comprehensive estimates have been made, informal calculations suggest figures in the range of \$10,000 to \$20,000 per recovered and identified body. Such an expenditure is not easy to explain on either “greatest good” or “positive rights” principles, since only the living count in such analyses.

Local norms also can affect recovery and rebuilding efforts. After the recent hurricanes, Mississippi and Louisiana have had to confront the question of whether their rules restricting gambling to off-shore locations should be maintained. There have been press reports that efforts to move some Mississippi shrimp boats back into the Gulf are being hampered by a reluctance to disturb a Native American burial ground. Again, where disaster planners and managers decide to respect (or not) local community values, obligations of transparency, explicitness, and accountability clearly apply.

Debate about which ethical principles and theories to apply and how to prioritize them in a specific situation has been going on for millennia. As noted, there are no simple, formulaic schemes for such choices. There are, however, ways of thinking about ethical principles and theories that can help preparedness planners devise strategies for emergency response. These involve *a systematic approach to applying basic ethical principles and theories to any particular situation*. One can create an ethics algorithm that if consistently applied to planning for any particular kind of emergency can, at least, provide reasonable confidence that ethical issues raised by an emergency were well considered. The ethics algorithm might be constructed as follows:

1. Who are all the possibly interested parties? Think *broadly*--include not only persons and categories of persons but institutions/organizations/professions/communities.
2. What are the full range of duties and obligations of each potentially interested party? Or at least the primarily interested parties? Think of parties as not only individuals but also institutions and groups.
3. How might various duties and obligations of each of the various parties clash/conflict?
4. What might be short-term and long-term consequences, both good and bad, of each possible course of action? How confident are you of your predictive accuracy?
5. What ethical principles are at stake? (Possible ethical principles include respect for persons, beneficence, nonmaleficence, justice, truth telling, liberty, opportunity, and reciprocity). Which ones are in tension?
 - a. After enumerating the list of principles at stake, work to specify them; refine the meaning of each principle involved. Work to bring the broad abstractions down to the level of the specific situation being discussed.
 - b. Make explicit the strategy for use of the principles. For example, for the situation at hand, must all the involved principles be upheld or is the strategy to balance the principles? If a balancing strategy is being applied, make explicit which values/ethical considerations are being balanced off and against which other values/ethical considerations.
6. What might be the intentions of the various players? Evaluate the praiseworthiness or lack thereof, of the motives of the people, organizations, and/or institutions involved.
7. What appear to be the full range of the possible courses of action?
8. Weed out those possible courses of action that appear not to be justifiable based on potentially bad consequences, inability to meet duties and obligations, and/or the ethical soundness, or lack thereof, of intentions.
9. With the possible courses of action that are left, make explicit the justifications for taking each. Then vigorously scrutinize whether or not those justifications are ethically robust.

The sequence in which the analysis called for in numbers 2 through 6 above is conducted may not be of major importance. It is necessary, however, to be able to claim convincingly that all points have been thoughtfully considered and deliberated, with the discussions and decisions fully documented.

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Summary and Conclusions

This review introduces some of the major, substantive, and competing ethical ideas that community disaster planners and managers are likely to find relevant to their efforts. At best, the review identifies some of those ideas in the broadest terms and sketches some of the more specific issues that each of these perspectives raises. How do you measure good? How far do you go to be fair? When are community norms to be respected or overridden?

In so doing, we argue for making explicit a set of norms that need to apply to how the planning process is conducted (see box).

The arguments for such a process are justifiable by both utilitarian and deontological ethical theories. On the deontological or duty-based side, respect for individual autonomy requires that citizens subject to the power of government be able to influence how that power is used and be protected from its misuse. That can occur through both general political structures and ad hoc participatory processes. If considerations of equity are to be respected, special efforts need to be made to ensure underresourced and underrepresented segments of the community have their say.

What Do Ethics Tell Us About What Makes for a Good Process?
<ul style="list-style-type: none">○ Transparent ethical judgments that confront hard choices○ Involvement and accountability for political leadership○ Broad outreach to the community

Corporations and upper-middle-class citizen groups will appear at meetings, and file comments, for example, but what about residents of public housing projects?

Whether one comes to the planning process with a (perhaps unarticulated) philosophical or psychological preference for either a utilitarian or

consequentialist perspective, broad participation and accountability have several potential benefits. Local residents may have knowledge and insight about local conditions. Businesses know well what resources they might contribute. Front-line disaster responders and their first-level supervisors will be painfully aware of gaps in their own training and equipment. Maximizing the good across the greatest number and meeting individual and organizational duties and obligations will take the contributions of the many.

Participation and transparency also will help educate citizens and prepare them both to participate in and to accept the implementation of plans when a disaster occurs. They will know what to do, and because they will have been involved, they will understand and therefore more readily commit to the reasoning behind the plan. They will have more realistic expectations and thus will be more prepared both psychologically and practically.

The process of democratic government, at its best, involves what political scientists call “deliberation.” In such conversations, both facts and values are explored, alternatives are examined, and meanings are clarified. When done well, deliberation not only produces good plans but also enhances a community’s capacity for self-government. Disaster planning offers a clear opportunity for advancing such goals.

Finally, it is important to remember that in a disaster, difficult choices will have to be made, and the better we plan, the more ethically sound will be the choices. There is no cookbook for combining conflicting ethical ideas. There is no “one-size-fits-all” method of priority setting, but community disaster planners need to see the opportunities as well as the difficulties that such a situation implies. There is room here for responsibility and choice, for ethical concern and technical excellence, for process skills and scientific expertise. It is surely worth doing, and worth our best efforts to do it well.

Practice Applying Ethical Principles to the Preparedness Planning Process

Emergency preparedness planning is, or should be, an iterative process. When preparedness planning groups habituate themselves to the discipline of thorough ethical analysis, they become increasingly skilled at conducting vigorous moral deliberations. Life is full of emergencies, and public institutions responsible for emergency preparedness and response can use any emergency that occurs anywhere to increase their knowledge base for their ongoing planning efforts. An agency that is responsible for emergency response, for example, can take the opportunity of any emergency that has recently occurred to test its own ethical analysis skills. An agency can use a recent emergency as an exercise to see if its own preparedness planning process would have yielded similar or different ethical judgments about response strategies that could have been used. Such post-hoc activities allow preparedness planning groups to practice the ethical analysis skills necessary to meaningfully apply ethical principles and theories to the planning process.

Chapter III. Assessing the Legal Environment Concerning Mass Casualty Event Planning and Response

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This chapter examines an array of legal issues involved in planning for MCE responses. The chapter discusses relevant laws and their potential impact on the ability of community planners to allocate resources when supplies are limited. Community planners are encouraged to partner with members of the State and local legal community to identify specific legal issues and solutions before and during an MCE.

Introduction

Laws at all levels of government are a critical part of emergency responses and allocation decisions involving scarce resources in mass casualty events (MCEs). For the purposes of this chapter, scarce resources broadly include physical items (e.g., medical supplies, drugs, beds, equipment), services (e.g., medical treatments, nursing care, palliative care), and health care personnel (e.g., physicians, nurses, lab technicians, and other essential workers in health care settings). Constitutional provisions, statutes, administrative regulations, cases, compacts, mutual aid agreements, and public health or emergency management policies or plans are each implicated in an assessment of the legal environment for MCE responses.

This chapter discusses an array of legal issues concerning allocations of scarce resources organized through a series of major legal themes in emergency responses, including:

- The changing legal landscape during emergencies.
- Balancing individual and communal interests.
- Suspending existing legal requirements.
- Interjurisdictional legal coordination.
- Medical licensure reciprocity.
- Liability and other protections for healthcare workers and volunteers.
- Property management and control.
- Making allocation decisions in real time: legal triage.

Within each of these themes are discussions of relevant laws and their potential impact (both positive and negative) on the ability of community health planners to allocate resources when supplies are limited. In some instances, distinctions between public- and private-sector entities are raised when relevant to the application of the law.

The purpose of this chapter is to frame common legal issues that State and local community health planners may need to address. This chapter is not meant to provide specific legal advice in any jurisdiction. Legal advice on issues identified in this chapter is necessarily fact-specific and may vary depending on State or local law and the specific circumstances involved. Community planners are encouraged to work closely with their State Office of the Attorney General or local counsel to identify specific legal issues and solutions before and during MCEs.

The Changing Legal Landscape During Emergencies

Since September 11, 2001, and the ensuing anthrax attacks, Federal, State, Tribal, and local governments have focused on crafting an appropriate legal environment for public health emergencies.² They assessed their emergency authorities and amended or enhanced their legal infrastructure where needed, a process that is still ongoing. The current legal framework for emergency responses presents differing standards for the declaration of an emergency and vests various powers at all levels of government. States or local governments may feature a comprehensive set of government powers arising from the declaration of a public health emergency.³ Other States predicate their emergency powers on the declaration of a general emergency or disaster, which may include any event that threatens the public's health or safety.⁴ Some States allow for the dual declaration of public health emergencies and general emergencies, which can lead to legislative confusion and duplication of efforts that may detract from the implementation of efficient emergency management functions.⁵ The Federal Government also has emergency declaration powers that operate independently or in conjunction with State and local emergency response efforts.⁶ These emergency powers are summarized below.

For community health planners, the importance of an emergency declaration at any level of government lies in its effect on their operations. Emergency declarations do more than announce a state of emergency in an affected local, State, Tribal, or national population; *they essentially change the legal environment* to facilitate emergency responses for the duration of the declaration.⁷ By reshaping the legal landscape to effectuate emergency responses, multiple legal options arise that would not be possible in nonemergency events.

PUBLIC HEALTH EMERGENCIES. Many State legislatures and health departments have amended State statutes and regulations to reflect modern principles of public health emergency preparedness based, in part, on the Model State Emergency Health Powers Act (MSEHPA) drafted in fall 2001 by the Center for Law and the Public's Health at Georgetown University and The Johns Hopkins University.⁸ MSEHPA presents State and local governments with a template for reviewing existing emergency declaration laws and developing legislative or other regulatory reforms to facilitate an effective public health response.⁹ While this chapter refers to MSEHPA to explain common provisions that are featured in many States' emergency preparedness laws, MSEHPA is not law unless a State has enacted it. According to the Center, over 35 States have enacted laws based in whole or part on MSEHPA since the Act's completion.¹⁰ These laws vary across jurisdictions and may be interpreted differently depending on a host of factors.

The Act sets a high threshold for what may constitute a public health emergency, defined as: an occurrence or imminent threat of an illness or health condition that: (1) is believed to be caused by any of the following: (i) bioterrorism; (ii) the appearance of a novel or previously controlled or eradicated infectious agent or biological toxin; (iii)[*a natural disaster*];

(iv) [a chemical attack or accidental release]; or (v)[a nuclear attack or accident]; and (2) poses a high probability of any of the following harms: (i) a large number of deaths in the affected population; (ii) a large number of serious or long-term disabilities in the affected population; or (iii) widespread exposure to an infectious or toxic agent that poses a significant risk for substantial future harm to a large number of people in the affected population.¹¹

Once a state of public health emergency has been declared, MSEHPA grants State and local public health agencies (and their public and private sector partners) a number of extraordinary public health powers.¹² This includes the ability to waive State professional licensing and certification requirements for volunteer health professionals participating in emergency response efforts,¹³ liability protections for medical personnel,¹⁴ and expedited procedures to acquire essential supplies and personnel.¹⁵ These powers are discussed further throughout the themes below.

GENERAL EMERGENCIES AND DISASTERS. Although many jurisdictions do not define *public health emergency* or a like term, every State and many local governments have developed a legal structure for declaring a *general emergency or disaster* and related emergency management functions.¹⁶ A state of emergency or disaster typically may be declared in response to any natural or manmade event or occurrence that threatens the public's health or safety. The processes in many States or local governments for declaring a general emergency or state of disaster resemble those for declaring a public health emergency through MSEHPA. Thus, a figure with significant political accountability (e.g., Governor, State health commissioner, local mayor, county commissioner) is vested with responsibility for declaring an emergency under specific or more generalized standards, depending on the laws in the jurisdiction.¹⁷

DUAL DECLARATIONS. Community health planners must be prepared to respond to emergencies under a new legal framework consistent with a state of emergency, disaster, or public health emergency. Assessing responses can be complicated, however, particularly when jurisdictions issue conflicting declarations of emergency. For example, as occurred in Louisiana in responses to Hurricane Katrina in 2005, a State governor may declare a general state of emergency initially (because the standard for such a declaration is often broader) and declare a public health emergency later as specific facts unfold. Two major problems arise from dual declarations: (1) the flow of specific powers and protections from emergency declarations vary depending on the type of declaration, and (2) responsibility and authority for emergency responses may become convoluted when differing State or local agencies are legislatively assigned to coordinate responses.¹⁸ In some States, public health authorities are responsible for managing a public health emergency while public safety or emergency management authorities handle general emergencies.¹⁹ Although advance emergency planning at State and local levels may limit potential conflicts, murky issues of governmental responsibility and authority can cloud key decisions in allocating scarce resources.

FEDERAL DECLARATIONS. The Federal Government also has the power to declare an emergency or disaster. The President may declare a national emergency pursuant to the National Emergencies Act of 1976.²⁰ The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act)²¹ also grants presidential declarations of an emergency or major disaster and vests the President with various powers to coordinate and implement disaster response assistance measures. The President may authorize emergency assistance “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” at the request of a State governor or when the emergency is primarily a Federal responsibility.²² Under the Stafford Act, depending on whether the event is an emergency or a major disaster, the Federal Government has differing powers to assist in response efforts.²³ For example, Federal disaster assistance is only available on the request of the State Governor for major disasters, including natural catastrophes, fires, floods, or explosions, “of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments....”²⁴

In addition, pursuant to the Public Health Service Act,²⁵ the HHS Secretary is authorized to declare a public health emergency.²⁶ This declaration authorizes a host of Federal actions. At any time, the HHS Secretary may deploy members of the Public Health Service or intermittent disaster response personnel to assist in meeting surge capacity in health care facilities nationwide.

Balancing Individual and Communal Interests

An important theme in emergency responses for community health planners making critical decisions concerning allocations of scarce resources is the balance between individual and communal interests. Emergency laws can support these decisions, particularly when communal interests are at stake in public health emergencies. Other legal requirements, however, also may impact these decisions. Constitutional principles may limit how the government may allocate resources. For example, allocation decisions that (1) are based on unwarranted discrimination against protected classes (e.g., race, ethnicity, national origin, religion, sex), (2) lack any meaningful justification, or (3) deny individuals any opportunity to be heard may violate constitutional principles of equal protection and due process or corresponding civil rights statutes. Legal causes of action to stop the enforcement of these decisions may be brought even during emergencies.

Disability laws, such as the Americans with Disabilities Act (ADA)²⁷ or State or local equivalents, may require certain protections for persons with disabilities during emergencies. Some States and some localities bar discrimination under much broader “human rights” laws.²⁸ State and local governments may legally require the prioritization of their own workforce over the general population concerning specific medical interventions to ensure the stability of government and continued efforts to protect the public’s health. Similar decisions by health care

entities to protect their essential personnel when resources are scarce also may be legally supportable.²⁹

Federal or State agencies may prescribe specific laws or guidance concerning the prioritization of vulnerable populations in making decisions involving distribution of scarce resources. For example, during the 2004–2005 influenza season, flu vaccines ran short because of manufacturing problems with a major supplier. The Centers for Disease Control and Prevention (CDC) issued guidance concerning distributions of available vaccine that prioritize infants, the elderly, and pregnant women. Many States legally incorporated CDC guidance into their own State allocation decisions.³⁰ These types of legal actions prior to and during emergencies demonstrate how laws can facilitate allocation decisions (literally by dictating a specific outcome), but also how they may interfere with local decisions of community health planners (who may not agree always with lawmakers and policymakers concerning specific allocations).

Suspension of Existing Legal Requirements

One facet of declared states of emergency that is designed to facilitate response efforts is the ability of government to suspend specific legal requirements temporarily that would apply in nonemergencies otherwise. During a state of public health emergency pursuant to MSEHPA, for example, the governor may: suspend the provisions of any regulatory statute prescribing procedures for conducting State business, or the orders, rules and regulations of any State agency, to the extent that strict compliance with the same would prevent, hinder, or delay necessary action (including emergency purchases) by the public health authority to respond to the public health emergency, or increase the health threat to the population.³¹

Similar statements allowing suspensions of existing provisions of law (except constitutional norms) exist in most Federal, State, and local emergency laws. Their use during an emergency can affect allocation decisions profoundly.

During public health emergencies, for example, a community health planner for a local hospital needs to be able to meet patient surge capacity. Many individuals may present with emergency health conditions, raising the legal question of whether the hospital has an obligation to treat them all. During nonemergencies, EMTALA³² prevents hospital emergency rooms from turning away individuals based on their ability to pay.³³ Hospitals are required to (1) screen individuals to determine whether they have an emergency medical condition and (2) provide either treatment to stabilize the individual's medical condition or a transfer to another facility that can provide stabilizing treatment.³⁴ Requiring hospitals to adhere to EMTALA provisions during emergencies may be unworkable, especially when they are engaging in triage to filter and treat patients. Recognizing the burden that EMTALA would impose on multiple hospital systems during Hurricane Katrina, HHS temporarily suspended its application in affected regions.³⁵ The HHS Secretary waived EMTALA sanctions for a specified time period (not to exceed 72 hours from implementation of a hospital's disaster protocol). Additional suspensions

of other legal requirements (such as the requirement to distribute a notice of privacy practices pursuant to the Health Insurance Portability and Accountability Act's Privacy Rule³⁶) in affected regions also can facilitate resource allocations by freeing personnel from administrative burdens for emergency purposes.

Interjurisdictional Legal Coordination

Emergencies tend to tax the existing capacities of governments and health care entities quickly in any locality, necessitating additional resources. Emergency responses require moving people and property between jurisdictions efficiently. Difficult legal questions arise. When can personnel or property be transferred between jurisdictions at the same or different levels of government during an emergency? Can States seize existing resources from counties or other municipalities? When must community health planners relinquish control or decisionmaking over specific resources? Does liability arise from the sharing of resources across boundaries?

These and other interjurisdictional legal concerns require coordination of activities and resources across local, State, and Federal boundaries before, during, and after emergencies. The Center for Law and the Public's Health has developed a Public Health Emergency Legal Preparedness Checklist on Interjurisdictional Legal Coordination to help community health planners and others work through these issues.³⁷ As explained in the Checklist, interjurisdictional coordination may arise horizontally between similar jurisdictions (e.g., between adjacent counties) or vertically between different jurisdictions (e.g., between local and State, local and Federal, and State and Federal governments). Though complicated by contrasting Federal, State, and local laws, several legal tools may facilitate interjurisdictional exchanges of resources.

As noted in the sections above, emergency declarations may authorize interjurisdictional coordination efforts or suspend laws that may interfere with such coordination during the emergency. Formal mutual aid agreements between States (e.g., the Emergency Management Assistance Compact [EMAC³⁸]), local governments (e.g., Illinois Public Health Mutual Aid System Agreement³⁹), and foreign countries (e.g., International Emergency Management Assistance Compact between several New England States and Canadian provinces⁴⁰) facilitate many exchanges of resources in real time during emergencies under specific conditions and protocols. Compacts like the Mid-America Alliance Mutual Assistance for Public Health Preparedness (among 10 Midwestern States)⁴¹ authorize resource exchanges in exigent circumstances that do not require an emergency declaration.

Medical Licensure Reciprocity

Acquiring or exchanging property during emergencies to replenish dwindling supplies is one thing; the legality of acquiring additional medical personnel or others to meet patient surge capacity is another. During MCEs involving Federal or State declarations of emergency, the

potential for significant losses of existing health care personnel coupled with hundreds or thousands of new patients presents an immediate need for additional trained healthcare providers.⁴² These may come from other in-State facilities or through out-of-State places. During Hurricane Katrina, thousands of volunteer health personnel (VHPs) streamed to the affected Gulf Coast States to provide assistance.⁴³ Many of these volunteers came through coordinated governmental programs (e.g., State-based Emergency Systems for the Advance Registration of VHPs, local Medical Reserve Corps units) or private-sector efforts (e.g., American Red Cross, Salvation Army, hospital systems).⁴⁴ In addition, HHS hired certain VHPs as temporary, uncompensated employees.⁴⁵

In nonemergencies, licensed non-Federal practitioners in one State cannot practice medicine or public health services in another State, absent applied waivers of State licensure requirements or other exceptional circumstances (e.g., Good Samaritan provisions).⁴⁶ Federal health care providers need only be licensed in one State to perform their official duties in any State.

During emergencies, States have created several legal approaches to circumvent normal licensing requirements for VHPs.⁴⁷ Some States provide waivers of professional licensure requirements during declared emergencies. Licensure reciprocity also may be promulgated via executive order or invoked pursuant to interstate agreements, such as EMAC.⁴⁸ These provisions allow volunteer health providers to practice for the duration of the emergency as if they were licensed in the jurisdiction, subject to restrictions on the scope of practice set forth by the State or political subdivision.

Though the paths to recognizing a VHP's out-of-State license are many, each is tied to specific legal interventions. For example, VHPs who are deployed via EMAC automatically qualify for licensure reciprocity.⁴⁹ Others may have to rely on whether the host jurisdiction has invoked licensure reciprocity through emergency declarations or other legal routes. Medical practitioners with needed skills still may be rejected because their license to practice is conditional or nonactive (e.g., the practitioner may be retired from medical practice) or they fail to meet emergency credentialing or privileging standards. Licensure reciprocity provisions must be clearly communicated during emergencies to ensure that VHPs are available to participate in emergency response efforts.

Beyond VHPs, patient family members, neighbors, or others within the community may be needed to provide palliative or other medical care or offer essential support for medical personnel. While a State-based declaration of an emergency does not typically authorize non-medically trained individuals to engage in systematic medical care of patients, their supervised participation in the care of relatives or companions is essential. Just as in nonemergencies, such activities are legally warranted in many cases. Persons lacking medical training also may provide key support services in the delivery of medical care to patients without legal impediments, provided that they do not actually treat patients. Screening patients through the administration of basic services by nonmedical personnel is legally permissible during

emergencies; diagnosing patients, deciding their treatment, or prescribing their medications is not, pursuant to a host of Federal, State, and local laws.

Liability and Other Protections for Health Care Workers and Volunteers

One of the premier concerns of health care workers and VHPs, and the health care entities that host them, is their risk for civil liability for negligent or intentional actions that may result in harm to patients during emergencies.⁵⁰ The uncertainties of emergency environments, the need to work within standards appropriate to the situation,⁵¹ and the unpredictability of harms to some patients (especially during emergencies) raise liability fears. Still, there may be some liability protections for these actors depending on the circumstances.⁵² Immunity from civil liability for harms to patients may be available through multiple legal sources, including (1) governmental sovereign immunity (if the worker or volunteer is a government employee or agent),⁵³ (2) Federal and State volunteer protection acts,⁵⁴ (3) Good Samaritan statutes,⁵⁵ (4) State emergency health powers statutes, and (5) mutual aid compacts such as EMAC.⁵⁶ For example, State officers or employees providing aid via EMAC during emergencies are protected from civil liability as agents of the requesting State so long as they act in good faith and without “willful misconduct, gross negligence, or recklessness.”⁵⁷

Despite significant protections for individual actors, fewer liability protections exist for the entities (e.g., private hospitals, medical clinics) that respond to emergencies. The Federal Volunteer Protection Act of 1997, for example, provides immunity for volunteers of nonprofit entities but not for the entities themselves.⁵⁹ Other State laws mimic this approach. As a result, hospitals and other health care entities are open to more potential liability for their acts (or failures to act) during an emergency.⁵⁸ An emerging State model law (e.g., the Uniform Emergency Volunteer Healthcare Services Act) provides some liability protections for entities coordinating or hosting VHPs.⁵⁹

A different type of harm for which liability may arise involves the workers or volunteers themselves. Under what circumstances may government or the private sector compensate these individuals for the injuries (e.g., physical or mental) incurred in responding to the emergency? In the employment context, workers are often protected from these harms through worker’s compensation programs that cover individuals injured or killed at work.⁶⁰ The cause or fault of the employee is not a factor; worker’s compensation pays regardless. These benefits typically cover public- and private-sector employees during emergencies, but what about VHPs? Volunteers are not typically viewed as employees and thus do not benefit automatically from worker’s compensation coverage.⁶¹

There are legal solutions to this dilemma. For example, volunteers deployed as Federal or State agents may be covered by governmental workers compensation plans. VHPs deployed through EMAC are automatically eligible for State workers compensation benefits. Some States, like

Michigan, have legally extended their workers compensation programs to registered VHPs providing services in the State during an emergency.⁶² Some employers as well have worked out contractual agreements with their workers' compensation carriers to continue to cover employees who volunteer to respond to an emergency outside the employment setting.

Property Management and Control

At the core of resource allocation issues involving nonpersonnel is the need to manage and control public and private property. This includes real property (e.g., land, buildings, establishments) and personal property (e.g., medical supplies, drugs, beds).

As part of their day-to-day legal power to abate public health nuisances, public health authorities are able to condemn, remove, or destroy any property (public or private) that may harm the public's health.⁶³ For example, if a private office building is contaminated with anthrax spores (as happened in Florida in fall 2001), State or local governments may require the facility to be shut down until it is safe for human occupancy. Of course, the power to abate public nuisances exists during emergencies as well.

Uses of real or personal property by State or local government or the private sector during emergencies is dependent on the type of emergency declared. Some common legal premises, however, permeate most declared states of emergency. Emergency management officials or public health authorities may designate public property instantly (e.g., State or local government buildings) for emergency uses and require an inventory and reallocation of available supplies. State or local governmental authorities are also empowered to seize private property for public use that is reasonable and necessary to respond to the emergency. This includes the ability to use and take temporary control of certain private-sector businesses and activities that are of critical importance to emergency responses.

During a public health emergency pursuant to MSEHPA, for example, a State department of health may designate a private facility (e.g., hotel, convention hall, private meeting place) to serve as a clinic for vaccination or other public health services. Similarly, health care facilities may be governmentally controlled to treat patients, although governments typically seek to partner with (and not commandeer) such facilities. Privately held medical supplies may be acquired quickly via the government to meet its own needs or the needs of the population.⁶⁴

Whenever governmental authorities take private property to use for public health purposes, constitutional law requires that the property owner be provided just compensation.⁶⁵ That is, the government must compensate the owner of any facilities or materials temporarily or permanently procured for public use during an emergency. Most emergency laws require payment not instantaneously but rather at some point after the state of emergency has rescinded. When public health authorities must condemn and destroy any private property that poses a

danger to the public, however, no compensation to the property owners is constitutionally required.

Other permissible property control measures include restricting certain commercial transactions and practices such as price gouging to address problems arising from the scarcity of resources. MSEHPA specifically allows public health officials to regulate the distribution of scarce health care supplies and control the price of critical items during an emergency.⁶⁶ In addition, public health authorities may seek the assistance of health care providers to perform medical examination and testing services. Maryland emergency laws actually compel health care workers to provide medical services (although this legal approach is not common).⁶⁷

These legal interventions can be a double-edged sword for community health planners. Laws may help community health planners meet critical resource needs by making available essential supplies or personnel or prohibiting price gouging but also may require planners to share their own resources in the interests of protecting the public's health. Standards for making critical choices in allocating scarce resources will help community health planners and their Federal, State, or other partners make guided decisions that work to the benefit of the community.

Making Allocation Decisions in Real Time: Legal Triage

Laws can help (and hinder) community health planners' decisions concerning the allocation of scarce resources. A key question is how to use the law as a positive tool during an emergency. One of the fundamental observations discussed in this chapter is the extent to which the legal landscape changes during emergencies. Normal processes, rules, and regulations may not apply fully. Expedited uses of public health or other governmental powers coincide with community health planners' need to make decisions in real time. Assessing the legality of specific choices (even when protections or requirements are neatly spelled out in emergency law) is difficult when the legal environment itself is changing.⁶⁸ The potential for some planners to act without significant regard for the legal ramifications or, conversely, to fail to act because of their legal apprehension sustains the need for advance consideration of the legal consequences.

Community health planners must align with their local legal community to clarify emergency legal issues in their jurisdictions. Addressing legal issues that underlie the allocation of scarce resources is an essential part of emergency plans. Begin with a series of legal questions that have been uniformly answered in prior emergencies. Does local government have sufficient home rule to declare an emergency? If so, under what authority? What types of emergencies can be declared? What powers flow from the declaration? What nonemergency legal provisions may be suspended? Additional questions may be derived from the checklist, *Local Government Public Health Emergency Legal Preparedness and Response*, developed by the Center for Law and the Public's Health.⁶⁹

A useful checklist on local government public health emergency legal preparedness and response is available at: <http://www.publichealthlaw.net/Resources/BTlaw.htm>.

Tougher questions should be specified and addressed. What emergency provisions directly impact the allocation of scarce resources? Who is legally responsible for making critical decisions at the State or local level? How much authority will a particular entity be given to make critical choices? When can the government challenge that entity's decisions? When is that entity, its employees, or its volunteers legally accountable for these decisions?

Advance planning and issue identification are essential, but they alone are not enough. Just as medical personnel must triage patients according to need during emergencies, legal practitioners in the public and private sectors must be prepared to prioritize relevant legal issues in real time. *Legal triage* refers to the efforts of legal actors to construct a favorable legal environment during emergencies through a prioritization of issues and solutions that facilitate legitimate public health responses and allocation decisions.⁷⁰

Community health planners should partner with members of the local legal community who are prepared during emergencies to (1) identify legal issues that may facilitate or impede allocation decisions as they arise; (2) monitor changing legal norms during emergencies; (3) communicate with lawmakers and policy officials in government and the private sector; (4) develop innovative, responsive legal solutions to reported barriers to allocation decisions; (5) explain legal conclusions through tailored communications to planners and affected persons; and (6) revisit consistently the utility and efficacy of legal guidance related to allocation decisions. Only through the skilled, knowledgeable, and coordinated efforts of legal practitioners and community health planners via legal triage during emergencies can some allocation decisions be made with legal confidence.

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Chapter IV. Prehospital Care

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This chapter discusses the unique context in which the U.S. emergency medical services (EMS) systems operate, and the issues that will need to be addressed in the case of an MCE. It presents the challenges to planning and coordination posed by the fragmented nature of EMS training, guidelines, and response capacity and offers recommendations for allocating scarce resources to respond to a catastrophic MCE. It highlights specific issues that planners need to consider to maximize EMS response capacity, offers recommendations for successful EMS MCE planning, and presents ideas and resources for EMS planners based on real-case scenarios and planning efforts.

Prehospital Care Issues and Recommendations At-A-Glance

MAJOR CHALLENGES AFFECTING EMS MCE PLANNING

Lack of:

- Consistency in EMS training and credentialing.
- Coordination and communication among EMS services and with public safety, public health, hospitals, trauma centers, and 9-1-1 dispatchers.
- Readiness preparedness among EMS providers and systems.
- Disaster training in EMS curricula.
- Financial and staff resources.
- An evidence base for EMS care.

RECOMMENDATIONS FOR EMS PLANNERS

- Develop partnerships with Federal, State, and local stakeholders to clarify roles, resources, and responses to potential MCEs.
- Improve communication and coordination strategies and backup plans.
- Exercise, evaluate, modify, and refine MCE plans.
- Model EMS responses to MCEs.
- Develop public education plans to provide information on when and where to obtain care.
- Ensure a cadre of EMS leaders.
- Plan and implement strategies to maximize to the extent possible:
 - Use and availability of EMS personnel
 - Transport capacity
 - Role of dispatch and Public Safety Answering Points
 - Personal protection for EMS personnel
 - Patient triage and evaluation
 - Destination choices.
- Use natural opportunities to exercise disaster planning.
- Use existing case examples and best practices.
- Develop strategies to identify large numbers of young children who may be separated from parents and cannot give information that would help them to be reunited with their parents.

Context of EMS Systems and Challenges for MCE Planning

In the event of a catastrophic MCE, it is the EMS systems that will be called on to provide first-responder rescue, assessment, care, and transportation and access to the emergency medical health care delivery system. Emergency medical services in the United States are provided through a complex system composed of highly variable organizational structures. Nearly half of all EMS are delivered through local fire departments. Others are structured within municipal or

county governments, police departments, health departments, or private companies (e.g., hospital-based, for-profit ambulance services) or are volunteer-based.⁷¹

The variability of EMS response systems is further exacerbated by important differences in EMS preparedness training, guidelines, and response capacity – posing significant coordination and communications challenges for EMS leaders and planners. Two recent reports from the Institute of Medicine (IOM), *Emergency Medical Services: At the Crossroads* and *Hospital-based Emergency Care: At the Breaking Point*,^{72, 73} highlight constraints and challenges that will impede the capacity of the nationwide EMS systems to respond to a catastrophic MCE. They include the following:

LACK OF CONSISTENCY. A criticism of the existing state of EMS preparedness is that there is no single oversight agency responsible for ensuring consistency in training, certification, or guidelines for disaster response, the use of personal protective equipment, or the coordination of EMS response and operations. There is wide variation in the design of EMS systems across States and local areas. Similarly, there is no coherent compliance program to ensure that EMS preparedness initiatives are integrated, sustainable, and exercised regularly to test for efficacies and vulnerabilities. In their recent report cited above, the IOM recommends that all institutions responsible for the training, continuing education, and credentialing and certification of professionals involved in emergency care (including medicine, nursing, EMS, allied health, public health, and hospital administration) incorporate disaster preparedness training into their curricula.

LACK OF COORDINATION. No central command and control entity coordinates assets and ensures communication among EMS response systems. Often EMS agencies are unable to communicate with each other because of incompatibilities in their communication systems. There is also a lack of communication and coordination among prehospital EMS and 9-1-1 dispatchers, public safety agencies, public health, air medical providers, hospital centers, and trauma centers – especially when emergencies cross jurisdictional lines.

LACK OF READINESS PREPAREDNESS. EMS representation in disaster planning at the Federal level has been limited, as have resources for homeland security designated to medical response, according to the IOM report. In addition, most EMS systems are not trained in the National Response Plan. Thus, they have little or inconsistent knowledge with its incident command and its tenets for supporting operational requirements. Likewise, EMS systems may not be fully aware of the Federal response capability, such as the provisions of the Homeland Security Presidential Directive/ HSPD-5, the National Disaster Medical System (NDMS), use of Disaster Medical Assistance Teams, the Incident Command System, Occupational Safety and Health Administration (OSHA) Personal Protective Equipment guidelines, and OSHA Hazard Materials Operations regulations. As a result, there is risk that requests for resource augmentation will be misdirected – possibly overlooking potential sources of support, command

and control, communications, and interoperability from other Federal departments and agencies.

EXAMPLES OF FEDERAL RESPONSE RESOURCES

Homeland Security Presidential Directive HSPD-5:

<http://www.whitehouse.gov/news/releases/2003/02/20030228-9.html>

National Disaster Medical System (NDMS): <http://www.ndms.fema.gov>

Disaster Medical Assistance Teams: <http://oep-ndms.dhhs.gov/dmat.html>

OSHA Personal Protective Equipment Guidelines:

<http://www.osha.gov/SLTC/personalprotectiveequipment/index.html>

OSHA Hazard Materials Operations Regulations:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099

LACK OF STANDARDIZED DISASTER TRAINING IN EMS CURRICULA. At this time there is no standardized requirement for education (and continuing education) regarding disaster training, special incident, or catastrophic response, and thus most EMS personnel have not been consistently trained to respond to acts of terrorism, natural disasters, or other potential MCEs. As a result, EMS responders will be called to situations in which they may be overwhelmed and unprotected. Some of these issues are being addressed by the Federal Interagency Committee on EMS (FICEMS), which was created to provide the EMS community with a mechanism for ongoing Federal coordination of EMS programs. The Committee and its supporting Federal Agencies are focused on the development of National EMS Education Standards.

DEVELOPING A NATIONAL MODEL

FOR EMS TRAINING

To address the lack of consistency in EMS training and credentialing, the National Highway Traffic Safety Administration (NHTSA) has been developing a national model to aid States in adopting a common scope of practice for EMS personnel, with State licensing reciprocity. Together with the Health Resources and Services Administration (HRSA) and other Federal Agencies, NHTSA is focused on the development of National EMS education standards and on providing leadership and coordination of comprehensive, evidence-based emergency medical services and 9-1-1 systems.

More information is available at:

<http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.2a0771e91315babbbf30811060008a0c/>.

LACK OF FINANCIAL RESOURCES. Many EMS response agencies do not have the financial resources to extend themselves beyond the demands of daily operations. Large-scale disasters often require unique resources and response capabilities, which are outside the scope of normal operations and far exceed agency budgets.

LACK OF STAFF. EMS response organizations are confronted with a severe recruitment and retention problem nationwide. EMS systems often are not attributed the same professional regard as other health professionals, and their salaries are often lower than those of police officers, fire fighters, and nurses. Many prehospital providers also hold other jobs; for example, volunteer EMTs in most communities have other employment, and their availability during an MCE may be limited. In addition, many personnel have more than one EMS employer or other obligations such as participation in the NDMS or military service.

LACK OF AN EMS EVIDENCE BASE. Research on prehospital care and response is limited, raising concerns that some practices may be inappropriate (e.g., field intubation of children) and clinical care questions remain unanswered. These challenges make it difficult for EMS response agencies to ensure a uniform culture of preparedness. As a result, there is an increased risk that without careful and concerted pre-event planning, the response to an MCE will be disjointed and less effective than it could be and will lead to avoidable deaths or injuries of both affected civilians and EMS responders themselves.

EMS in an MCE: Expected Shortages and Needs

In the case of an MCE, many health care resources at the local and regional levels will be overwhelmed or eliminated. Those EMS response agencies that are able to remain operational likely will encounter a demand for services that will outstrip the supply and available resources. EMS systems will confront:

- Personnel shortages.
- Breakdowns in supply chains.
- Lack of coordination and information sharing among diverse EMS providers, public safety, hospitals, trauma center, and public health.
- Breakdown of logistic support for operational sustainability, including such things as fuel shortages; inadequate availability of transport vehicles; and shortages in supplies, equipment, and pharmaceuticals.
- Overloading of hospital emergency departments and associated services such as intensive care capabilities; specialty services such as burn care or decontamination units; and specialized equipment such as ventilators, personal protective equipment, or negative pressure rooms.
- Breakdowns in local “burden sharing” strategies (mutual aid agreements) due to overwhelming demand and lack of surge capacity.
- The need to implement modified treatment protocols to meet the extraordinary conditions of the MCE that may be limited to reasonable life-sustaining activities where appropriate.

Recommendations for planners

There are several important actions that planners should take *prior to an MCE* to help maximize the response capacity of prehospital EMS services. Those actions include the following:

FORGING PARTNERSHIPS AT ALL LEVELS. Building relationships and partnerships is a critical component of emergency management planning. The need to coordinate and allocate scarce prehospital resources in the case of a catastrophic MCE requires the development, implementation, exercising, and refinement of partnerships between Federal, State, and local government response agencies, as well as between public and private entities. These relationships need to clearly define the roles, responsibilities, capabilities, oversight, command, communications, logistics, and response resources each will bring to bear in an MCE. *Involvement of senior leadership from all response agencies is essential for success and actual progress.*

“Emergency management is really about building relationships, whether you are in the public or private sector. And in building those relationships, it is important to remember not to *tell*, but to *talk*.”

Edward Gabriel
Walt Disney Corporation

Examples of partnerships could include the establishment of mutual aid agreements or interstate compacts to address issues such as the acquisition and deployment of extra transport vehicles or licensure and indemnification matters regarding responders. Similarly, memoranda of understanding (MOU) could be developed among public and private ambulance services to coordinate response to potential MCEs.

IMPROVING COMMUNICATION AND COORDINATION. Planners must develop integrated and interoperable communications and data systems that can link EMS agencies to hospitals, trauma centers, public safety departments, emergency management offices, and public health agencies. Communication discipline is one of the keys to effective incident management, and ideally, these systems would be centralized through established ICS channels. There should also be a plan for backup or redundant communication strategies in case there are failures in primary communication methods. Similarly, other backup procedures for actions that can be taken when systems fail should be planned, tested in advance, and integrated into the planning process.

CONTINUALLY MODIFYING AND REFINING PLANS. Practical planning is essential and should include concrete implementation steps with training and exercise goals for each step. Each component of the response should be taught, exercised to the point of failure, evaluated, modified, rewritten, and tested once again. Exercises should simulate actual casualties, as well as management of the “worried well” – individuals calling for EMS resources who do not actually need them. Exercises should include response partners from public, private, community, and governmental agencies. This iterative process allows for continuous modifications and improvements.

MODELING MCE RESPONSES. Modeling responses to a catastrophic MCE may take the form of tabletop exercises, actual but smaller events, or computer simulations and can provide examples of difficulties which may be faced during such an event. Such modeling efforts should start using small numbers of casualties as a starting point and then use rising victim number scalability models; i.e., plan for 100, then 1000, then 10,000, and then 100,000. Planners should consider the use of models such as the Large Scale Emergency Response (LASER) Program at New York University, which includes the following components: computer modeling of large-scale events, risk communication, legal aspects, workforce support, and community-based response issues.

MODELING LARGE-SCALE DISASTER SCENARIOS

The LASER program at NYU uses a computer model of New York City to simulate possible catastrophic disasters according to a range of prescribed parameters. It can simulate the National Incident Management System and assess its integration at the local level to test in detail the effectiveness of various emergency response strategies. It also highlights factors such as communications strategies for providing risk and emergency information to the public that could decrease fatalities. Further information is available at: <http://www.nyu.edu/ccpr/projects/laser.html>.

EDUCATING THE PUBLIC. Planners need to develop, implement, exercise, and refine efforts to provide for comprehensive public education. This may include such things as scripted messages that provide specific directions to the public on actions they should take or public information programs that specifically outline whether to call 9-1-1 for assistance.

PROVIDING AND ENSURING LEADERSHIP. Leadership training should be provided for mid- and upper-level EMS supervisory staff to ensure that in case of major illness, injuries, or deaths, there will be individuals who can take on the role of EMS medical director or leadership. The determination also should be made in advance regarding who in the organization would be able to adjust standard operating procedures and the scope of practice of emergency medical technicians (EMTs) to the needs of the situation.

Case Study: Preparation for the 2004 Democratic National Convention in Boston, MA

For more than a year before the 2004 Democratic National Convention, Massachusetts's public health agencies planned and drilled for a variety of potential emergency and disaster scenarios. Following are examples of the key preparatory steps they took.

- EMS agencies and organizations in the Boston area developed a mapping database with current information on emergency exits, emergency medicine locations, and routes to hospitals and clinics to be used in GIS mapping systems and for planning purposes. This work is available at: gis.esri.com/library/userconf/proc05/papers/pap1579.pdf.
- The Massachusetts Emergency Management Team (MEMT), composed of liaisons from over 70 agencies and organizations, met and trained together on a monthly basis. The MEMT served as the coordinating agency for the State Emergency Operations Center (SEOC). More than 30 Federal, State, local, private, and volunteer agencies and organizations staff the SEOC on a 24/7 basis.
- The MEMT prepared and tested a plan for integrating business and industry into the emergency support function. Designated liaisons from area businesses and industries helped the MEMT prepare to use their assets and expertise and to communicate with business and industry leaders. More information is available at: mass.gov/agency/documents/mema/DNCWebpagell.doc.
- A Consequence Management Subcommittee met to develop response and coordination plans for the various EMS organizations. The subcommittee considered how information should be collected and shared among the large number of command and/or operations centers and explored ways to connect these centers to Washington and all the other command and/or operations centers. Further information is available at: mass.gov/agency/documents/mema/DNCWebpagell.doc.

Approaches to the allocation of scarce resources

In the face of a catastrophic MCE, there likely will be scarcities and mismatches regarding EMS personnel, transport capacity, and destination availabilities for patient treatment. As a result, creative strategies will need to be implemented for coordinating and maximizing the use of available staff members and resources. Ideally, these strategies should be considered, tested, and refined prior to the MCE. Legal and ethical advisors should be included in discussions (see Chapters II and III of this guide). Approaches to the allocation of scarce resources to be considered should include, but not be limited to, the following:

MAXIMIZE THE AVAILABILITY OF EMS PERSONNEL through modified or extended shifts, deployment of no more than two providers per vehicle, and use of one-person response vehicles for “patient evaluation” prior to dispatch of transport resources. Staff members also may be shifted so that non-EMT personnel serve as drivers; fire, police, or volunteer EMT personnel provide assistance during transport; and other medical personnel (e.g., physicians, nurses, nurse’s aides) help staff casualty treatment sites to permit EMS personnel to provide transport services. “Just-in-time” programs to train nonmedical volunteers to provide basic medical care such as direct pressure for hemorrhage control should also be developed.

MAXIMIZE THE USE OF AVAILABLE EMS PERSONNEL. Some medical protocols may be suspended (e.g., base contact for certain interventions) to allow for greater efficiency and flexibility in patient management. EMS personnel may be used in nontraditional settings (e.g., alternative care sites, hospitals, pharmaceutical distribution centers) for field triage, treatment, or transport. Their scope of practice may be extended to provide vaccinations or medications or to deliver nontraditional medical care at the scene or in the home.

MAXIMIZE TRANSPORT CAPABILITY. Public and private ambulance services should be coordinated and steps taken to ensure that they do not self-dispatch to MCEs. Paramedic-initiated alternative transport mechanisms also should be put into place (e.g., buses, taxis, privately owned vehicles). Mutual aid agreements should be in place and implemented to deploy and use available transportation assets, staff members, and staging locations. Transport assets should be loaded to their full capacity and patients taken to the closest appropriate hospital or care site. Air transport should be used to take patients to distant facilities (unless the incident presents contamination risks). Noncritical calls should be batched by geographic area. Bypass, diversion, or closure rules could be suspended to promote equitable distribution of patients and to try to avoid the overloading of any one hospital. Secondary transport needs should be anticipated so that patients can be transferred from overloaded hospitals or care sites to those that are less affected.

COMMUNITY EMERGENCY RESPONSE TEAMS (CERTS)

The CERT Program educates people on disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community. Further information is available at:

www.citizencorps.gov/cert/about.shtm.

MAXIMIZE THE ROLE OF PUBLIC SAFETY ANSWERING POINTS AND DISPATCH. Call screening strategies should be in place to determine the level of urgency required to respond to calls. Maximal response strategies involving multiple responders (e.g., engine company, ambulance, law enforcement) used in standard EMS response should be avoided.

Prearrival instructions should be scripted and tailored to the incident at hand with formal recommendations regarding the use of alternative methods of transport and alternative care sites. Nontransporting vehicles with a single responder may be dispatched to evaluate calls and the need for onsite care and ambulance transport.

MAXIMIZE PERSONAL PROTECTION FOR PERSONNEL. Universal precautions should be used for every patient encounter, if at all possible. To minimize the number of responders exposed to pathogens or chemicals, specialized protections should be used to the extent possible and adjusted to the nature of the incident (e.g., distribution of antibiotics, vaccines, or antidotes to staff and family members). In the case of chemical incidents, decontamination needs must be evaluated and addressed prior to transportation to preserve transport capability. Similarly, security personnel should be assigned to protect EMS response operations, logistics centers, and stockpile depots.

MAXIMIZE PATIENT TRIAGE AND EVALUATION. Specific triage systems should be in place prior to an incident, and personnel should be trained and exercised in their use. Examples include the START and JUMPSTART triage systems. Simple triage methods include rapid separation of the critical from the noncritical (i.e., “Everyone who can walk should get on this bus”). The overarching principle for triage is “the most good for the most people.” The differentiation of “expectant” patients from those who likely will survive should be performed in consultation with or by the EMS Medical Director or designee. Selected triage systems should include palliative treatment for casualties deemed to have little likelihood of survival. Although such patients may be categorized as lower priority for transport, appropriate comfort measures, including pharmacologic treatment, should be provided as available.

START/JUMPSTART

A combined **START/JUMPSTART triage algorithm** for patients from birth to age 14 years is available at: miemss.umaryland.edu/emscwww/pdfs/startjumpstartq.pdf.

MAXIMIZE DESTINATION CHOICES. A centralized coordination of patient transport should be in place to minimize hospital overloading and maximize the use of other available resources, such as primary care providers, alternative care sites, medical evaluation centers, or triage centers.

Indeed, it is likely that the vast majority of victims of an MCE may end up being most appropriately managed in the home setting, either because their illness or injury is not severe enough to warrant institutionalized care or because the successful outcome of such inpatient treatment in the setting of scarce and limited resources would be considered futile and potentially wasteful.

Many view the community hospital as a “safe haven,” a place to go for food, shelter, protection, and medical attention. However, particularly in the event of a transmissible infectious disease in which hospitalized patients represent the sickest patients in the community, the concept of “safe haven” may not be applicable. In fact, it may be more dangerous to be in the hospital setting than to remain at home. It is important for community planners to highlight the concept of the home as a “safe haven” in their risk communication strategies and develop measures to support

this concept. Emergency planners, therefore, must incorporate the likelihood of home care delivery in all aspects of their planning efforts. This planning must focus on the possibility that some rudimentary degree of medical care will need to be delivered in the home setting, often with limited outside professional assistance.

Incorporating Home Care Into Emergency Planning: Issues to Consider

- Register patients being cared for in the home setting with a local emergency management agency and the public health department to ensure access to relevant information.
- Ensure adequate stock of routine, chronic care medications.
- Ensure adequate stock of basic first aid supplies, including but not limited to bandages, antipyretic medications (acetaminophen, ibuprofen), oral electrolyte solutions, and thermometers.
- Ensure that backup utility support is in place if warranted (particularly for those patients requiring electricity support for medical devices).
- Establish a “sick room” in the home for the primary management of ill household members, particularly in the event of a transmissible infectious disease.
- In the event of caring for patients with advanced symptoms “too sick” for hospital care, coordinate symptom palliation with a home care team coordinated by local public health authorities.
- Ensure the availability of a bedside commode or bedpan.
- Ensure the availability of a bedside humidifier, if possible.

Planners also need to make sure to include the ambulatory care system as part of the MCE planning process. Many people look to their primary care provider first for information on health care issues. Primary care providers would play a critical role in MCE situations, particularly that of influenza pandemic, for example, in determining which patients need to go to the hospital and which patients can be cared for at home. Planners should therefore regard primary care providers and their local ambulatory care system as an important component of a system to keep the hospitals from being overwhelmed. Given their role as critical sources of health care information and assistance for communities, planners should incorporate ways to maximize the ambulatory care system appropriately as part of the overall MCE response.

Whenever possible, specialized patient treatment requirements should be matched to the most appropriate destinations. Information services systems that provide ongoing updates of hospital bed status and capabilities should be in place and implemented to inform EMS about destination choices and to help coordinate patient distribution. This includes local, regional, statewide, and

national systems such as the National Hospital Available Beds for Emergencies and Disasters (HA_vBED)⁷⁴ national hospital bed availability tracking initiative.

HA_vBED SYSTEM

The HA_vBED System explores the feasibility of a national real-time hospital-bed tracking system to address a surge of patients during an MCE. This demonstration model is funded by the Agency for Healthcare Research and Quality and has been developed by Denver Health. A report describing the development, implementation, and evaluation of HA_vBED is available at:

www.ahrq.gov/research/havbed.

Casualty treatment areas can be established on site, near the disaster scene, or at alternative care sites (depending on the nature of the incident) to address the volume of casualties, provide triage, assess transport needs and choices, and serve as a treatment site to which supplies will be deployed. Home health care should be used according to predetermined triage protocols to prevent unnecessary utilization of EMS transport and hospital resources (e.g., provision of primary care, vaccines, antiviral medications).

NATIONAL FIELD TRIAGE CRITERIA

The Terrorism Injuries: Information, Dissemination and Exchange (TIIDE) Project convened a meeting in 2005 to begin to develop national field triage criteria that can be used in mass casualty events. The TIIDE grantees consist of six emergency medicine organizations who are leading an effort to review the available evidence on mass casualty triage and develop a position paper on the subject that will be endorsed by the TIIDE partner organizations.

Planners can find further information about the TIIDE Project at:

www.acep.org/webportal/membercenter/sections/ems/cdcmodelcommunities.htm

Using Case Examples and Best Practices

Cities have natural opportunities to exercise their disaster planning by using special events such as marathons, major sports/cultural events, or large national conventions as “planned disasters.” Special events inevitably result in large crowds, more accidents and injuries than usual, and a strain on EMS resources. Thus they present a prime opportunity to prepare for MCEs and test MCE equipment and protocols. This approach is supported by the U.S. Department of Homeland Security in their *Lessons Learned Information Sharing* electronic database, which provides updates and examples of community response plans, lessons learned from actual

disaster events, developments of MOUs and other planning tools, best practices, and stories of successes.

The more EMS agencies are able to take advantage of opportunities such as special events and to invest in drills and training, the better prepared they will be when actual disasters arise. For example, the effective emergency response to the July 2005 London public transport bombings was a direct result of extensive training. Planners should take the time to write and read after-action reports, as they serve as useful tools for better understanding what has and has not worked and they can provide the basis for necessary improvements to be made to response capabilities.

Learning from others – other nations or other U.S. or international agencies – is a critical component of being prepared.

Although EMS agencies in the United States rarely deal with MCEs, for certain countries, such as Israel, and agencies such as the U.S. Agency for International Development's Office of Foreign Disaster Assistance (USAID/OFDA), responding to medical disasters is more common. Thus, much may be learned by examining ways in which other nations respond to large-scale emergency events (e.g., bombings, natural disasters, disease outbreaks) with limited resources.

Case examples of disaster relief from USAID can be found at: www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance.

ABOUT LLIS.GOV ORIGINAL CONTENT

Lessons Learned Information Sharing (LLIS) the following types of original content:

- **Lessons Learned:** Knowledge and experience – positive or negative – derived from actual incidents such as the 1995 Oklahoma City bombing and the 9/11 attacks as well as observations and historical study of operations, training, and exercises.
- **Best Practices:** Peer-validated techniques, procedures, good ideas, or solutions that work and are solidly grounded on actual experience in operations, training, and exercises.
- **Good Stories:** Exemplary – but non-peer-validated – initiatives implemented by various jurisdictions that have shown success in their specific environments and that may provide useful information to other communities and organizations. Access to LLIS is restricted to verified emergency response providers and homeland security officials.

Available at: www.llis.gov

Endnotes

⁷¹ Institute of Medicine, Committee on the Future of Emergency Care in the United States Health System. *Emergency Medical Services: At the Crossroads*. Washington: National Academies Press; 2006.

⁷² Ibid.

⁷³ Institute of Medicine, Committee on the Future of Emergency Care in the United States Health System. *Hospital-based Emergency Care: At the Breaking Point*. Washington: National Academies Press; 2006.

⁷⁴ Agency for Healthcare Research and Quality (AHRQ). National Hospital Available Beds for Emergencies and Disasters (HAvBED) System: Final Report. AHRQ Publication No. 05-0103. Rockville, MD: AHRQ; December 2005. Available at <http://www.ahrq.gov/research/havbed/>. Accessed July 18, 2006.

Chapter V. Hospital/Acute Care

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Some of the most difficult decisions about providing an appropriate standard of medical care when resources are inadequate to meet event-driven demands will be made in hospitals. This section presents an overview of the recommended systems and processes for planning and implementing the allocations of scarce hospital and acute care resources during a catastrophic MCE. It offers planners recommendations regarding the development of integrated and coordinated systems of response and ways to make the operational decisions for stretching and allocating scarce resources during a catastrophic MCE.

Hospital/Acute Care Issues and Recommendations At A Glance

MAJOR ISSUES AND CHALLENGES

- Hospitals already at or near capacity for emergency and trauma services
- Meeting needs for basic and specialized equipment
- Coordinating competing health care systems
- Incompatibilities in communications systems
- Lack of on-call specialists and other essential staff (e.g., nurses)
- Need for security and protection

RECOMMENDATIONS PRIOR TO AN MCE

- Develop an integrated incident management system.
- Establish interhospital compacts and mutual aid agreements.
- Establish a jurisdictional Emergency Operations Center; ensure that the hospital knows how it is represented there.
- Designate a “trusted source” to serve as the hospital’s resource and policy representative at the local or regional emergency response level.
- Develop a planning framework for allocating scarce resources, ideally based on existing Federal or State guidances, which articulates the integration of response strategies and tactics across facilities/agencies.
- Regionalize disaster response, through Multi-Agency Coordination (MAC) planning.
- Establish a Joint Information Center (JIC) or other centralized method to link communications regarding incident and response at the local, regional, and State levels.
- Use expert panels or planning groups to develop decision- making protocols or guidance for allocating scarce resources in the case of an MCE.
- Put into place an institutional and State position on how scarce resources would be allocated to health care workers.

RESPONDING TO AN MCE

- Increase space capacity within the hospital through rapid patient discharge and transfer, addition of beds/cots, facilitation of home-based care, and use of alternative care sites.
- Increase staff capacity through schedule changes, staff sharing, and promotion of home care.
- Increase access to supplies through contacts/agreements with commercial vendors.
- Institute administrative changes to facilitate processes, reimbursements, reassignment of the staff and schedules.
- Institute clinical changes to a level appropriate to the available resources. Base triage and allocation decisions on existing guidance, if possible.
- Ensure security for the staff and supplies.
- Plan for mass mortuary needs.
- Develop strategies to identify large numbers of young children who may be separated from parents and cannot give information that would help them to be reunited.

Hospital and Acute Care in the Context of a Catastrophic MCE

The overall goal of hospital and acute care response in an MCE is to meet the reasonable care needs of as many patients as possible, while also meeting at least minimal obligations for comfort to each patient.⁷⁵ In the case of a catastrophic MCE, however, hospitals will not have access to many needed resources (e.g., manual resuscitation bags to provide ventilation in response to a pandemic influenza, supply of anti-toxin in the case of mass botulism poisoning). Thus, difficult decisions will have to be made regarding the allocation of available resources.

During an MCE, Federal and State agencies might be able to offer policy guidance, nationally sanctioned decision tools, and event-specific relief of certain regulatory obligations. However, the *operational* decisions regarding limited resource allocation (and the liability related to such policies) will be the responsibility of individual hospitals, communities, and regions. Thus, it will be incumbent on these localities and entities *before an event occurs* to establish and test plans for operational incident management systems that can be applied to respond to an MCE.

Challenges for MCE Planning

Much of the hospital-based response to an MCE will rely on planning, protocols, and actions that should be put into place and tested well ahead of time. In order to address those planning needs, however, planners must take into account the critical challenges that hospitals will face in responding to catastrophic events.⁷⁶ Those challenges include the following:

SURGE CAPACITY ISSUES. A recent report on hospital-based emergency care from the Institute of Medicine² reveals that many hospital emergency and trauma services are already at or near full capacity and thus not equipped to respond to the increased demand and decreased resources that would occur in an MCE. Interhospital agreements have the potential to alleviate overcrowding by transferring existing inpatients to other facilities, for example, but evidence from a Centers for Disease Control and Prevention study indicates that only 46 percent of hospitals have agreements of this type.⁷⁷

INADEQUATE SUPPLIES. Lack of sufficient supplies, particularly of specialized equipment such as personal protective equipment, ventilators, and negative pressure rooms, will be a challenge for most hospitals.

NEED FOR COORDINATION, COOPERATION, AND CONSISTENCY BETWEEN HEALTH CARE SYSTEMS THAT ARE IN COMPETITION WITH ONE ANOTHER. Public health and State government may have certain authorities to make decisions during an emergency, but the scope of their powers often does not extend into health care facilities. Thought should be given to approaches to facilitating or enhancing cooperation between diverse, and potentially competing, entities.

COMMUNICATION BARRIERS. In order to respond at a level appropriate to the incident, critical information must be shared and processed across systems to give an overview of the event,

guide the mobilization of necessary resources, and inform the development of strategies and tactics at the hospital and community levels. The fragmented nature of emergency care systems leads to incompatibilities in communications and data systems between EMS systems, hospitals, trauma centers, public safety services and public health agencies.

LACK OF SPECIALISTS AND OTHER ESSENTIAL STAFF. Even in the current emergency and trauma care system, the supply of on-call specialists and other essential staff (e.g., nurses) is not great enough to meet demand – a gap that will be greatly exacerbated in an MCE.

NEED FOR SECURITY PRESENCE AND PROTECTION. Hospital staff members, supplies, and assets will need to be protected in the case of an MCE, which naturally will result in scarcities and the potential for fear, theft, or violence.

Recommendations Related to Advance Planning

In the event of a catastrophic MCE, decisions and policies regarding resource allocation within hospitals will have to occur at multiple levels, ranging from the State down to local communities and institutions. Ideally, these decisions and policies should be crafted in advance of the event and should reflect nationally sanctioned guidance.

Hospital administrators and local and State elected officials must work to ensure that the framework for such decisionmaking is in place and that a public conversation is held that ensures understanding of the resources and limitations of the health care system.

They must be prepared to defend this planning to State agencies and government and help them to understand the implications of resource allocations. Local and regional legal issues must be raised and defined, and solutions must be determined.

PLANNING TEMPLATE FOR HOSPITALS

To help stimulate discussion and planning for MCEs within hospital facilities as well as at the local and regional levels, a **Mass Casualty Disaster Plan Checklist for Health Care Facilities** has been developed by the Center for the Study of Bioterrorism and Emerging Infections and the Association for Professionals in Infection Control and Epidemiology, Inc. It is available at: www.gnyha.org/eprc/general/.

Ideally, hospitals should be able to follow guidance and decision support tools to make resource allocation decisions (e.g., who should receive mechanical ventilation) that are sanctioned and approved at the Federal level and are distributed by the State. Even with the support of these tools or policies, however, it is the hospital that will have to take on the role of implementing them.

To plan for addressing the hospital and acute care needs following an MCE prior to an event, hospitals and their partners should do the following:

DEVELOP AN INTEGRATED INCIDENT MANAGEMENT SYSTEM. In order to respond to the demands and scarcity of resources that would be brought on by an MCE, hospitals must have in place a system of coordination with other local hospitals, public health departments, incident commanders, public safety, and EMS systems to provide care.

Thus, integrated incident management is critical to preparing for an MCE and must be developed prior to any catastrophic event.⁷⁸

INCIDENT MANAGEMENT SYSTEM CURRICULUM

The complexity of incident management, coupled with the growing need for multiagency and multifunctional involvement in incidents, has increased the need for a single standard incident management system that can be used by all emergency response disciplines. The Incident Command System, originally designed in California to respond to wildfires, has been adopted as the National Incident Management System (NIMS), a national training curriculum for public and private sector users that can be applied to multihazard and planned event situations. Information on the training curriculum is available at: www.nimsonline.com/ics_training/index.htm.

The Institute of Medicine report on hospital-based emergency care recommends that coordination and incident management require the following components:⁷⁹

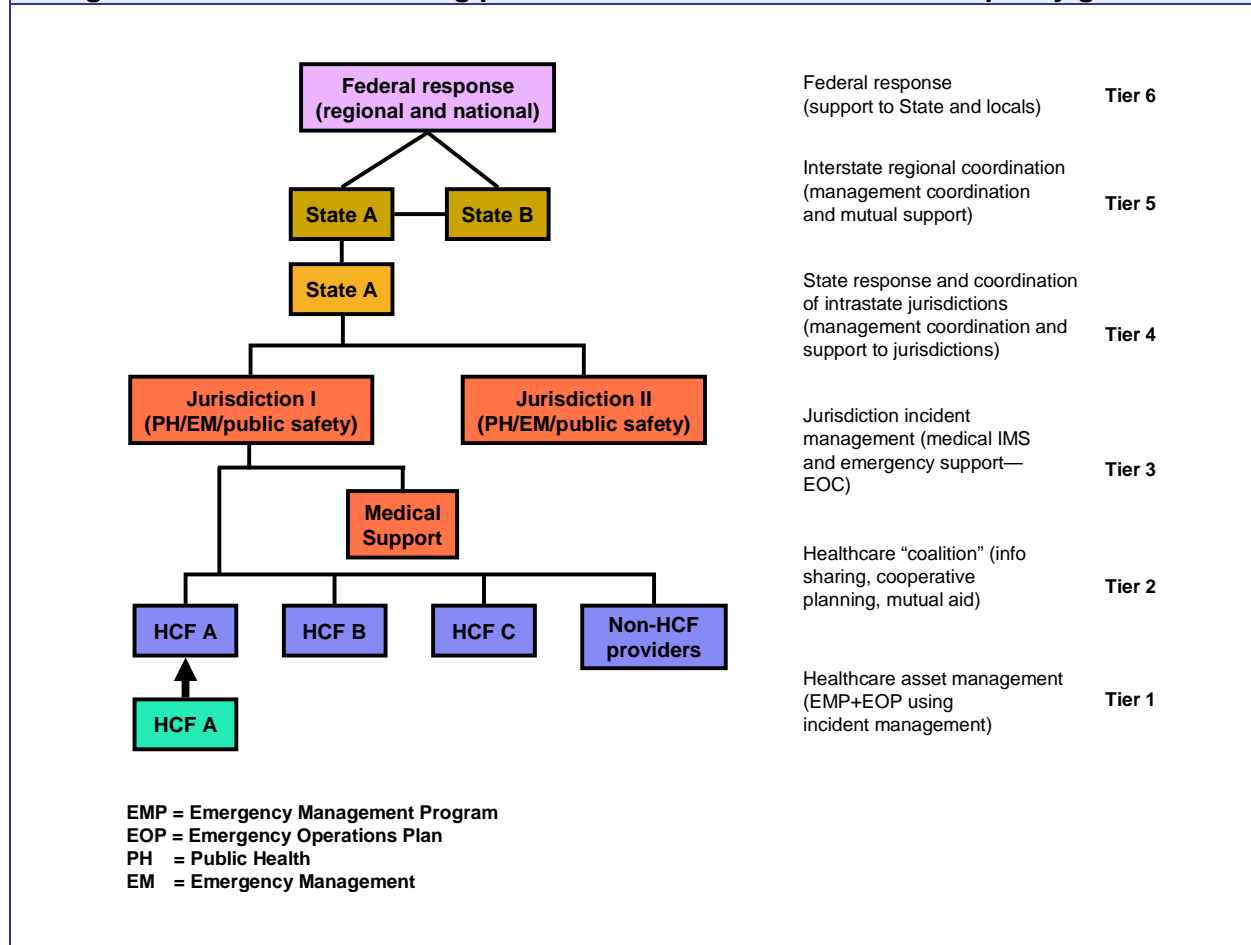
- The establishment of hospital coalitions, compacts, and mutual aid agreements to create a common platform for planning and response. This may be facilitated by the use of an existing program, such as the Hospital Incident Command System (HICS) [Hospital Emergency Incident Command System at the time the IOM report was written], which is a well-instituted and nationally recognized approach to disaster management.
- The establishment of a jurisdictional Emergency Operations Center. Each hospital should be familiar with its local office of emergency preparedness and know how it is represented there, whether through assignment of direct liaison, the public health department, a hospital association, the EMS system, or another mechanism.
- The designation of a particular hospital or local public health agency as a “trusted source” to serve as the hospital’s resource and policy gateway within the region during a major multijurisdictional event.

HICS applies the principles of incident management to health care facilities. The system helps coordinate emergency response between hospitals and other emergency responders with a system based on a predictable chain of management, defined responsibilities, prioritized response checklists, clear reporting channels for documentation and accountability, and a common nomenclature to facilitate communications. Further information is available at: www.emsa.ca.gov.

DEVELOP A PLANNING FRAMEWORK FOR ALLOCATING SCARCE RESOURCES. This framework should be transparent and shared with key stakeholders in the health department, attorney general's office, and governor's office as well as with the community, both in advance of and during an MCE. The framework should establish ways to do the following:

- Define or project the resource shortfalls and the impact on clinical care.
- Identify the facilities and area to be affected.
- Request additional resources, facilitate the transfer of patients out of the affected area, or facilitate alternative strategies for patient care (e.g., offsite care, home care).
- Develop and disseminate supportive policy and clinical guidance (e.g., triage and treatment recommendations, decision tools) – ideally ones that have been nationally sanctioned or Federally approved and disseminated. Sources of expertise may include the academic, private, or public medical care system. Clinical guidance or decision aids should reflect any available Federal guidance and ideally be flexible enough to allow hospital and clinician discretion in making resource allocation decisions, as deemed medically justified.
- Provide guidance for liability relief for providers in good-faith compliance with such policies and guidance.
- Include guidance on the equitable management and allocation of scarce resources. For example, prior to an MCE both government and private institutions should know the extent to which they can commandeer equipment or information about remaining supplies and to allocate resources.
- Articulate the integration of response strategies and tactics across facilities and agencies at the local and regional levels (see Figure 1). Use a tiered approach, ranging from the smallest unit, the individual health care facility (HCF) or group of providers (Tier 1); through health care coalitions (Tier 2) and jurisdictional incident management systems (Tier 3); to broader State, interstate, and Federal response levels (Tiers 4–6). Resource coordination needs that overwhelm the lower tiers spill over onto the higher tiers either to meet the resource needs or to make policy decisions to cope with the lack of resources.

Figure 1. The decisionmaking process for resource allocation and policy guidance



Source: Medical Surge Capacity and Capability: A Management System to Integrate Medical and Health Resources During Large-Scale Emergencies. CNA Corporation, under contract to HHS (August 2004).
<http://www.cna.org/domestic/healthcare/studies.aspx?fromsearch=1>.

Coordinating Community and Regional Planning of Hospital/Acute Care MCE Responses

Regional planning

The State health department has the overall responsibility for projecting health resource needs in the event of a major health-related emergency and for allocating scarce resources to meet those needs. Some States have intrastate regional coalitions (clearinghouse hospitals, regional coordinating hospitals), which can assist the State health department in managing resource allocation within their area. This arrangement establishes a more effective span of control for the State, with only a few regions rather than multiple individual facilities, reporting data and resource needs. It also allows for plans to consolidate inventories of supplies, epidemiological data, medical response, communications, and command and control. These intrastate regional coalitions, where they exist, should be incorporated into regional Multi-Agency Coordination (MAC) planning and response (see Figure 2). Planners should expect that

