

# Crisis Standards of Care

A Systems Framework for  
Catastrophic Disaster Response

EMS

INSTITUTE OF MEDICINE  
OF THE NATIONAL ACADEMIES

# Crisis Standards of Care

A Systems Framework for Catastrophic Disaster Response

## Volume 3: EMS

Committee on Guidance for Establishing Standards of Care for Use in Disaster Situations

Board on Health Sciences Policy

Dan Hanfling, Bruce M. Altevogt, Kristin Viswanathan, and Lawrence O. Gostin, *Editors*

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Willing is not enough; we must do.”*  
—Goethe



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This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

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its release. The review of this report was overseen by **Dr. Georges Benjamin**, American Public Health Association. Appointed by the Institute of Medicine, he was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.



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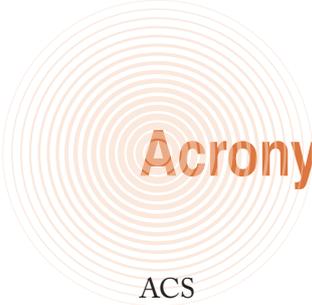
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# Acronyms

ACS	American College of Surgeons
ALS	advanced life support
ASPR	Assistant Secretary for Preparedness and Response
BLS	basic life support
CDC	Centers for Disease Control and Prevention
CONOPS	concept of operations
CSC	crisis standards of care
DHS	Department of Homeland Security
DMAT	disaster medical assistance team
EIRRA	EMS Incident Response and Readiness Assessment
EMA	emergency management agency
EMAC	Emergency Management Assistance Compact
EMD	emergency medical dispatch
EMR	emergency medical responder
EMS	emergency medical services
EMT	emergency medical technician
EOC	emergency operations center
ESAR-VHP	Emergency System for Advance Registration of Volunteer Health Professionals
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
HHS	Department of Health and Human Services
HRSA	Health Resources and Services Administration

ICS	incident command system
JIC	joint information center
JIS	joint information system
MIEMSS	Maryland Institute for Emergency Medical Services Systems
MMRS	Metropolitan Medical Response System
MRC	Medical Reserve Corps
NAEMSO	National Association of State EMS Officials
NDMS	National Disaster Medical System
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
PIO	public information officer
PSAP	public safety answering point
SALT	sort, assess, life-saving interventions, treatment/transport
SDMAC	state disaster medical advisory committee
START	simple triage and rapid treatment
VA	Department of Veterans Affairs
VF	ventricular fibrillation

## 6: Prehospital Care

### Emergency Medical Services (EMS)

Prehospital care is provided by emergency medical services (EMS) responders, who are the initial health care providers at the scene of disaster. EMS personnel often are the first to recognize the nature of a disaster and can immediately evaluate the situation and determine the need for resources, including medical resources. These licensed/certified personnel (emergency medical dispatchers, emergency medical responders, emergency medical technicians, and paramedics) may be the first to apply crisis standards of care (CSC), and are integral partners in local and state<sup>1</sup> efforts related to the development and implementation of coordinated and integrated CSC plans (NHTSA, 2012). EMS agencies and personnel may already be engaged in such planning at the local level through their regional EMS/trauma advisory councils or health care coalitions (HHS, 2009; NASEMSO, 2011a; NHTSA, 2000). Their further involvement at all levels of CSC planning and implementation should be a goal.

This chapter outlines the roles and responsibilities of state EMS in CSC planning and implementation in the overall context of a CSC response system, as well as operational considerations entailed in carrying out those roles and responsibilities. Two templates provide core functions for EMS systems in CSC planning and for EMS systems and EMS personnel in the implementation of CSC plans. The content of this chapter should be used in conjunction with other chapters of this report that provide detailed guidance on specific CSC topics (e.g., related to legal issues, ethical considerations, palliative care, mental health, hospital care, and out-of-hospital and alternate care systems) that may be referenced only briefly as planning or implementation considerations in this chapter or the two accompanying templates.

### ROLES AND RESPONSIBILITIES OF EMERGENCY MEDICAL SERVICES

Prehospital care is an essential part of the continuum of emergency health care that is frequently initiated by a 911 call to a dispatch center. Routinely, the need for emergency care is determined by trained personnel who receive such a call and dispatch appropriate air and ground ambulances and other EMS responders to triage, treat, and transport the patient(s) to the appropriate health care facility, where definitive care is ultimately provided. This continuum of conventional care is provided through a coordinated and integrated emergency health care system with well-trained and well-equipped personnel at dispatch centers, ambu-

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<sup>1</sup> For the purposes of this report, the term “states” encompasses states, tribal jurisdictions, and territories.

lance agencies, hospitals, and specialty care centers (trauma, burn, pediatrics) using standardized protocols and guidelines approved by medical directors (HRSA, 2006; NHTSA, 2012). This emergency health care system will be stressed to its limits during a mass casualty incident. Dispatch and regional call centers, local EMS agencies, and hospitals will undertake contingency measures utilizing their emergency operations plans and medically approved protocols to implement surge medical capabilities (DOT, 2007; NHTSA, 2007a). These measures may include

- EMS agencies requesting assistance from neighboring jurisdictions for personnel and equipment through mutual-aid agreements (e.g., the Emergency Management Assistance Compact [EMAC] or statewide agreements);
- public safety answering points (PSAPs) and call centers altering their dispatch protocols, sending fewer resources, and allowing EMS providers to respond to fewer requests for assistance (DOT, 2007);
- transport destinations being adjusted to allow transport to clinics or other alternate sites of care in addition to hospitals (AHRQ, 2009a);
- EMS personnel utilizing disaster triage systems (sort, assess, life-saving interventions, treatment/transport; simple triage and rapid treatment [START]; and JumpSTART triage methods) so they can assess patients within 60 seconds and categorize them for immediate or delayed care (HHS, 2011; Lerner et al., 2011; Romig, 2011); and
- EMS personnel utilizing the National Incident Management System (NIMS) incident command system (ICS), which provides a consistent model for all organizations involved in the disaster response.

In the case of a mass casualty incident, in which emergency health care personnel, medical and transport equipment, and hospital beds are scarce, local EMS personnel will be forced to modify their care from conventional to crisis care (see Chapter 2, Box 2-4 and Figure 2-2). This means moving from usual standards of care, in which the goal is to save everyone, to CSC, in which as many lives as possible are saved with the resources that are available. Resource shortages may include limited staff, supplies, and equipment; a lack of fuel or medicines; limited mutual aid; or disruption of coordination and communication functions. Strategic approaches to utilizing these scarce resources should be planned and implemented, and should include maximizing the use of available personnel, community response teams and health care personnel registries, disaster triage criteria, and altered transport modes and patient destinations. Table 6-1 shows possible adaptations of prehospital care under conventional, contingency, and crisis conditions. Guidance produced by the state of Michigan, titled *Ethical Guidelines for Allocation of Scarce Medical Resources and Services During Public Health Emergencies*, is a source for more concrete examples of EMS protocols along the continuum of care (State of Michigan, 2012).

Fundamental changes in prehospital care may result during a disaster, including a change in the scope of practice (Courtney et al., 2010) for EMS personnel to allow them to administer vaccines or perform other tasks for which they receive just-in-time training. EMS personnel may be asked to function in extraordinary settings, such as shelters, alternate care sites, patient receiving centers, clinics, and tented free-standing medical units. They may be asked to alter the staffing levels for an ambulance, utilizing a driver and one medical

**TABLE 6-1**Potential EMS Response Adaptations Under Conventional, Contingency, and Crisis Conditions<sup>a</sup>

	Conventional	Contingency	Crisis <sup>b</sup>
Dispatch	<ul style="list-style-type: none"> <li>Consider initial auto-answer during times of high call volume for medical emergencies</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize calls according to potential threat to life; “pend” apparently non-life-threatening calls (note this requires a medically trained dispatcher, not available at many public safety answering points [PSAPs])</li> </ul>	<ul style="list-style-type: none"> <li>Decline response to calls without evident potential threat to life (also requires a medically trained dispatcher)</li> </ul>
Response	<ul style="list-style-type: none"> <li>Modify resource assignments (e.g., only fire/rescue dispatched to motor vehicle crashes unless EMS are clearly required, single-agency EMS responses if fire agencies are overtaxed)</li> <li>Seek mutual-aid assistance from surrounding areas</li> </ul>	<ul style="list-style-type: none"> <li>Modify resource assignments to a greater extent</li> <li>Change EMS assignments to closest available unit rather than advanced life support (ALS)/basic life support (BLS)</li> <li>Consider staffing configuration changes (e.g., from two paramedics to one paramedic plus one emergency medical technician [EMT]-B)</li> <li>Consider requests for disaster assistance</li> </ul>	<ul style="list-style-type: none"> <li>Request EMS units from emergency management (if possible)</li> <li>Consider use of National Guard ambulances or other assets</li> <li>Utilize scheduled BLS providers to answer emergency calls</li> <li>Change staffing to one medical provider, one driver</li> <li>Further modify resource assignments as possible</li> <li>Attempt no resuscitation of cardiac arrests (except ventricular fibrillation [VF] witnessed by EMS)</li> </ul>
Patient assessment	<ul style="list-style-type: none"> <li>Allow patients with very minor injuries to use their own transportation</li> </ul>	<ul style="list-style-type: none"> <li>Encourage patients with minor injury/illness to use their own transportation</li> </ul>	<ul style="list-style-type: none"> <li>Assess patients and decline to transport those without significant injury/illness (according to guidance from EMS medical director)</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>Transport patients to the closest appropriate facility (rather than the facility of the patient's choice)</li> </ul>	<ul style="list-style-type: none"> <li>Consider batched transports—answer subsequent call(s) before transporting stable patients to the hospital</li> </ul>	<ul style="list-style-type: none"> <li>Decline transports as above; employ batch transports as needed</li> </ul>

<sup>a</sup> EMS volumes will fluctuate significantly over time; thus, conventional, contingency, and crisis conditions may all occur in a single operational period. Dispatchers must therefore have excellent situational awareness of resources and deployment of personnel to provide the best service possible at a given time and have practice in managing these scenarios.

<sup>b</sup> Crisis adaptations often require state or at least city declarations of emergency, as well as relief from usual staffing and response requirements of the state (often through a governor's emergency order).

attendant; use other modes of transportation, such as vans and buses; or not transport at all by treating and releasing patients. Extraordinary circumstances may require EMS personnel to assist in the evacuation of patients at a health care facility to alternate care sites. This, in turn, may require them to provide care to patients for longer than is usual for EMS providers, who normally provide care for patients at the scene and during transport and transfer (AHRQ, 2009b).

It is important to ensure that the planning and implementation of the above measures are reviewed and approved by state, regional, and local medical EMS directors for consistency with state-level CSC plans and protocols. A sample protocol in Maryland (Alcorta, 2011) demonstrates CSC strategies for use by EMS providers in a catastrophic public health incident. The measures include

- utilizing a triage screening algorithm to ensure that response is limited to severely ill or injured patients,
- discontinuing certain life-saving treatment efforts,
- applying strict criteria for the use of scarce equipment,
- transporting only the most severe cases, and
- having access to the emergency department only for patients with immediate needs.

These measures should have been reviewed and approved by medical directors and are applied across jurisdictions. Personnel should have been trained and exercised in their use, and their application should be understood among emergency health care system stakeholders (dispatch centers, hospitals).

## State EMS Offices

The state EMS office generally is in a unique position within state government and can take a leadership role in the development and implementation of CSC plans. The state EMS office, together with regional and state advisory committees/councils and in collaboration with state health and emergency management departments, should ensure that CSC plans and protocols are consistent across jurisdictions and among emergency health care system stakeholders. The state EMS office can utilize existing committee structures for planning and the expertise of consultants serving on these committees for activating disaster plans, policies, and CSC strategies.

Most state EMS offices have statutory authority, scope, and jurisdiction to regulate and coordinate the provision of EMS statewide for conventional emergency care or when the need arises to provide contingency or crisis care. The authority for state EMS offices, mandated in statute, may include the roles and responsibilities listed in Box 6-1.

Strategic planning is a performance measure for EMS/trauma system development and provides accountability and consistency across jurisdictions. This places state EMS offices in a unique position to

### **BOX 6-1 General State EMS Office Authority**

- |   |   |
|---|---|
| 1. Licensure/certification of EMS personnel                     | 8. Conducting performance improvement                                       |
| 2. Licensing air and ground ambulances and response vehicles    | 9. Developing disaster plans and response capabilities                      |
| 3. Establishing standardized field protocols                    | 10. Providing statewide medical direction                                   |
| 4. Designating hospitals as trauma centers                      | 11. Conducting public information, injury prevention and education programs |
| 5. Establishing interoperable communications systems            | 12. Statewide coordination of an EMS system and strategic planning          |
| 6. Establishing state and regional advisory committees/councils |   |
| 7. Gathering patient care data                                  |   |

SOURCE: NHTSA, 1996.

## **BOX 6-2**

### **Preparedness and Response Performance Measures**

- Conduct a resource assessment for response to mass casualty incidents, and perform a gap analysis.
- Establish the need for protective resources for EMS providers and families.
- Within the EMS system plan, define methods for integrating preparedness plans, routinely exercising those plans, and supporting sufficient caches of equipment and backup personnel.
- Within the EMS system plan, specify means of allowing resources to be used across jurisdictions, both inter- and intrastate, using the Emergency Management Assistance Compact, memorandums of understanding, and the National Incident Management System.
- Within the EMS system, plan and develop specific provisions for pandemic influenza.
- As the state lead EMS system agency, have access to equipment, materials, and personnel, including the Strategic National Stockpile, for large-scale incidents.
- As the state lead EMS system agency, have a deployment mechanism for sharing personnel resources, and routinely exercise that mechanism.
- As the state lead EMS system agency, have legal authority, based on the example of the Model State Emergency Health Powers Act, to modify the scope of practice of EMS personnel during an influenza pandemic and other public health emergencies.

SOURCE: NHSTA, 2007b.

provide leadership and expertise for disaster preparedness planning and response. The state EMS office, whether it is formally part of the state health department or a separate agency, may augment state health departments in their role as the Emergency Support Function (ESF)-8 lead (although the state health department does not have this role in all states). The state EMS office may be responsible for requesting and coordinating federal medical assets; providing state medical assets; and working toward an all-hazards approach to disaster mitigation, planning, response, and recovery.

While no official national lead agency regulates EMS, the National Highway Traffic Safety Administration (NHTSA), Office of EMS, has taken a significant leadership role over the years in developing documents to guide state EMS offices in various aspects of system development, including a component for disaster preparedness and response (IOM, 2007). These documents provide valuable guidance for the development of statewide regionalized systems of care and help define the leadership role for state EMS offices. The NHTSA document *State Emergency Medical Services Systems: A Model* (NHTSA, 2007b) outlines clear performance measures that can be used by states to assess their preparedness and response capabilities for large-scale incidents that may consume scarce resources and precipitate the implementation of CSC plans. These measures are listed in Box 6-2.

Recently, NHTSA, through an agreement with the National Association of State EMS Officials (NASEMSO), developed an assessment tool for use by states in determining local, regional, and state capabilities to manage a mass casualty incident or other large-scale emergency along highways and roads. The *EMS Incident Response and Readiness Assessment (EIRRA)* document can be used to assess various capabili-

ties for CSC planning and implementation (NASEMSO, 2011b). The key capabilities and benchmarks are listed in Box 6-3.

Resources available through various organizations support the involvement of the state EMS office in disaster preparedness and response. According to the American College of Surgeons (ACS) in *Resources for Optimal Care of the Injured Patient 2006*, trauma system leadership, usually provided by the state EMS office, should develop a state plan that is integrated with EMS, public health, emergency preparedness, and emergency management. The document outlines a requirement for the lead state trauma office to assess the EMS system's preparedness, specifically in regard to its coordination with other disaster response agencies (e.g., public health, emergency management) (ACS, 2006).

The ACS document is closely aligned with the Health Resources and Services Administration's (HRSA's) *Model Trauma Systems Planning and Evaluation*, which presents a public health approach to trauma system development (HRSA, 2006). The HRSA document supports an all-hazards approach to preparedness and encourages state EMS and trauma lead agencies to

- develop disaster preparedness capabilities that are integrated with prehospital and hospital care within regional systems of care,
- involve the private and public sectors in planned responses, and
- include performance improvement in the planning and response effort.

Although standardized models for EMS system development and disaster planning are available, the administration of a statewide EMS system is extremely complex and varies widely from state to state (NASEMSO, 2004). Most state EMS offices reside within the state department of health. However, some reside within the department of public safety, while others are stand-alone agencies. Those EMS offices that reside within a state health department may be in a position to assist as the ESF-8 lead for public health and medical disaster response within the state. This alignment may be beneficial in providing a coordinated and integrated response for public health and medical needs during a disaster. In collaboration with the state health department and other state agencies, the state EMS office is in a unique position to take a leadership role in the development of both contingency and crisis standards of care plans and to coordinate the response to a disaster within established regional systems of care.

## Dispatch Centers

Dispatch centers, poison centers, and other PSAPs play a key role in the activation and implementation of CSC. The PSAP may refer calls to or direct the public to call a 211, 311, or some other number for specific information relative to a disaster since the 911 system and routine communications systems will be overwhelmed. Several states, including Arkansas, Colorado, Louisiana, and Maryland, have developed regional dispatch centers or call centers that are used to monitor bed capacity and system management. These centers routinely facilitate the transport of critically injured patients from a referral facility to a trauma center. They can be a valuable resource during a disaster by assisting with patient transport to alternate care sites, providing system status management, and exercising other dispatching capabilities. As care is stratified during a disaster response, more front-end triage of patient complaints will be performed to limit the potential

**BOX 6-3**  
**Response and Planning Capabilities in**  
**EMS Incident Response and Readiness Assessment (EIRRA)**

**Personnel**

- Human resource availability
- Education and training
- Safety and support
- Medical direction

**Infrastructure**

- Public safety answering points
- Communications resources and systems
- Hardware and equipment
- EMS personnel and transportation
- Transportation operations
- Technology and situational awareness

**Emergency Care System**

- Medical facilities
- Specialty care systems
- Mass casualty support teams
- Alternate facilities
- Unique patient communications needs

**Public Awareness and Notification**

- Before incident
- During Incident

**Evaluation**

- Patient information systems
- Postincident review

**Mass Casualty Planning**

- Incident command system structure
- Uniform triage system
- Transportation determination planning
- Destination determination planning
- Special risk/hazard vulnerability
- Multiple fatality management
- Inventory resource management (sustainability)
- Rehabilitation services
- Exercises
- Highway mass casualty playbook (plans and procedures)
- Governance

burden on emergency departments and inpatient facilities so as to reduce overcrowding. The call centers may direct the public to nursing hotlines or to poison control centers for assistance with patient triage. EMS providers may be directed to deliver care at the scene utilizing treat-and-release protocols.

In a crisis situation, a central dispatch or call center may activate medically approved dispatch protocols and prearrival instructions designed to alleviate the burden on EMS response capabilities that are being overwhelmed. This action will assist EMS agencies, hospitals, and other community organizations in utilizing scarce resources during a disaster. It is important to note that these specialized protocols are used only when a disaster has been declared, when the EMS medical director has authorized their use, when they are included in the dispatch agency's emergency operations plan, and when staff have received training and exercise in recognizing triggers for their activation (National Academies of Emergency Dispatch, 2009).

## OPERATIONAL CONSIDERATIONS

To operationalize the CSC framework set forth in the committee's 2009 letter report and reiterated in Chapter 2 of this report for EMS, CSC planning efforts should specifically enumerate EMS roles, responsibilities, and actions. To this end, the state agency taking the lead role in coordinating a systems-based response should establish consistent triggers and thresholds that indicate transitions from conventional to contingency to crisis care, define a clear mechanism for authorizing activation of CSC, provide liability protection for EMS personnel and altered modes of transportation, coordinate emergency operations across the affected region, and address reimbursement issues directly. While standardizing the planning process will contribute to consistency in implementing CSC, the different environments in which EMS operates should be taken into consideration. In a disaster, resource shortages may disproportionately affect rural areas that are already resource-constrained on a routine basis (see the discussion of a rural EMS perspective below). Therefore, providing for a robust EMS response through inclusive planning and attention to local EMS challenges is crucial in developing and implementing plans for and recovering from situations that require CSC.

### CSC Planning Considerations

The state CSC plan should be developed to specifically outline the lead roles, responsibilities, and actions of the state EMS office. Critical EMS-related state CSC planning actions are listed in Box 6-4.

In a CSC incident, state resources will be exhausted, and federal resources will be necessary. Systems to support resource distribution and allocation are essential to the provision of emergency health care at the regional and local levels. Also essential is to ensure connectivity and uniformity within regional advisory committees/councils/coalitions for CSC planning efforts. The state EMS office and state medical director should ensure the application of consistent disaster triage guidelines during a crisis, similar to the application of EMS field triage guidelines in use for trauma patients (National Expert Panel on Field Triage, 2012). The state EMS office should formulate strategies for addressing the lack of resources in a CSC incident and identify clinical and administrative triggers for activation of the state CSC plan. In addition, it should take the lead in identifying clinical and administrative triggers for activation of CSC for all jurisdictions.

As previously mentioned, some of these strategies may include encouraging dispatch centers to modify prearrival instructions; allowing ambulance services to modify resource assignments and staffing configura-

#### **BOX 6-4**

### **Critical EMS-Related State CSC Planning Actions**

These actions include

- establishing consistent triggers and thresholds for CSC,
- modifying protocols,
- transferring protocols,
- authorizing the use of CSC protocols and plans,
- providing liability protection for EMS personnel,
- providing coordination for regional and state emergency operations and CSC planning,
- addressing and assisting with reimbursement issues, and
- providing liability protection for altered modes of transportation and care.

tions; and using alternate resources to assist with crisis communications and triaging, such as 211 or 311 centers, regional call centers, nurse assistance call centers, and poison control centers. These types of resources should be identified during the CSC planning process.

It is equally important to outline regional and local EMS roles and responsibilities within the CSC plan. As every disaster begins at the local level, situational awareness among local EMS providers and regional EMS councils will make it possible to quickly determine when additional resources are needed or recognize when resources are scarce. For example, dispatch centers and EMS agencies may see that call volumes have doubled, recognize that resources are insufficient to meet the increased demand, and subsequently recognize that the activation of contingency plans is in order. Or, as noted earlier, several states have developed call centers that assist with identifying hospitals for patient transfers. These centers also have the capability to monitor demand for resources through web-based systems that can be used to track patients and hospital beds, thereby enhancing the distribution of patients to hospitals or appropriate specialty care centers for burn, pediatric, and severe trauma care. These regional resources and capabilities should be incorporated into the development of a state CSC plan that is inclusive of EMS provider needs, resources, and operational procedures.

Regardless of the jurisdiction, it is imperative to integrate several considerations and key principles into the CSC plan. These include

- utilizing a NIMS-compliant ICS,
- adhering to ethical norms and principles,
- providing palliative care services,
- addressing the needs of at-risk populations, and
- mobilizing mental health services for communities and health care providers (IOM, 2009a).

In all jurisdictions, the ICS should be used in disaster planning and response. Common terminology will result in better coordination and communications during a disaster. Also, as stated in the committee's letter report, "An ethical framework serves as the bedrock for public policy" (IOM, 2009a, p. 5). This framework

includes fairness, the duty to care, and the duty to steward resources. The CSC planning process should also be characterized by transparency, consistency, proportionality, and accountability.

The state EMS office, in cooperation with the state health department, should ensure that EMS agencies have an opportunity to review and discuss the CSC plan at the state, regional, and local levels. EMS agencies should be engaged in the planning process from the beginning, and this can easily be accomplished through regional advisory councils or committees. These entities are existing infrastructure in most states and provide a forum for discussion of routine patient care within the regional emergency health care systems, resulting in standardization and consistency in triage, treatment, transport, and transfer protocols and guidelines. A regionalized and integrated systems approach to CSC planning is consistent with other emergency health care planning guidelines, such as those for trauma system development, recognized by NASEMSO, NHTSA, and ACS (see Box 6-4).

## Rural EMS Perspective

Rural EMS providers face particular challenges in a disaster as they routinely work with limited and scarce resources. During a recent Institute of Medicine (IOM) workshop on mass care in rural areas, many challenges to EMS care and disaster response were identified, including

- geographic barriers of vast expanses of unpopulated land mass,
- extreme weather conditions,
- communication challenges due to the lack of cell phone or radio coverage in some areas,
- difficulty recruiting and retaining trained volunteer personnel,
- funding and leadership,
- medical direction,
- political and cultural landscapes,
- existing statutes,
- contingency planning,
- hospital and trauma center availability,
- fragility of current rural EMS agencies,
- inconsistencies in cell phone service,
- psychological consequences,
- access to the scene, and
- patient tracking (IOM, 2011; Whitney et al., 2010).

At the workshop, participants outlined considerations for disaster planning and response from a rural perspective that are pertinent to CSC planning and response as well (see Box 6-5).

Participants also shared lessons learned that may be applicable to CSC planning. Several participants identified the need for EMS agencies to engage with other partners, such as the Department of Veterans Affairs (VA), the military, and the private sector, for resource sharing and to view regionalization of care as an opportunity to expand resources and facilitate partnerships. Specific suggestions for states also were made for consideration in disaster planning from a rural perspective:

**BOX 6-5**  
**Disaster Planning and Response Considerations**  
**from a Rural Perspective**

- Ensure an adequate day-to-day response capability.
- Conduct broad, inclusive planning and exercises.
- Train in and consistently use the incident command system.
- Formalize mutual-aid agreements and cross-jurisdictional planning and coordination.
- Develop realistic regionalization strategies with local input and stakeholders.
- Establish and develop strategic partnerships.
- Leverage existing federal programs and grants.
- Explore the use of technologies such as telemedicine.
- Strengthen the standing of EMS in the federal government.
- Ensure coordinated and dedicated EMS funding.

SOURCE: IOM, 2011.

- Establish command and control systems that integrate local, state, and federal emergency response using a common operating structure.
- Assess rural dispatch center capabilities, and enhance the development of priority dispatch training, prearrival instructions and protocols, and alternate dispatch capabilities for disaster response.
- Develop a safe, secure, and redundant communications system that can function without the commercial power grid.
- Define authority for rapidly altering standards of care and scopes of practice.
- Determine skill sets for large-scale response, and provide appropriate just-in-time training.
- Stockpile surge assets, including equipment and medical supplies, and identify surge personnel.
- Establish a quality improvement process for reviewing the system.

The last of these suggestions is relevant for all stakeholders in CSC planning and implementation. It is important not only to review after-action reports from disaster exercises and responses but also to review patient care data collected during a CSC incident. The evaluation process will provide an opportunity to improve relevant standards of care, plans, policies, statutes, and guidelines. Workshop participants identified several metrics that could be used to evaluate a CSC response, including

- frequency of incidents, time to ICS role, rural-specific patient outcome data, access to trauma care, ability to treat patients with special needs, triage and treatment guidelines, alternate care sites, extent of integration with public and private resources, and safety of transportation assets;
- geographic location of ground and air ambulances, clinics, hospitals and trauma centers, and personnel and equipment;
- education, training, skill expansion, medical supervision, and quality improvement; and
- risk-adjusted mortality, injury severity scores, interfacility transports, transport times, and referrals.

Evaluation capacity is a requirement for the federal funding available through the Centers for Disease Control and Prevention (CDC) for public health response, as the Pandemic and All Hazards Preparedness Act mandates that certain benchmarks be met. Cooperative agreements administered by both CDC and the Office of the Assistant Secretary for Preparedness and Response (ASPR) within the Department of Health and Human Services (HHS) require that states have specific capabilities. While limited federal disaster planning grants and programs are available to EMS agencies and state EMS offices, inclusion of an evaluation component in the CSC plan may enhance future funding opportunities by providing justification for addressing gaps in response capabilities identified through the evaluation process and established metrics.

## TEMPLATE DESCRIPTIONS

Planning and implementation of the state CSC plan may reside with the state health department (see Chapter 5). However, it is essential for the state EMS office to be engaged in the process as well. To ensure incorporation of EMS-related CSC considerations in the plan, the state EMS office may find it helpful to review and utilize the state and local government templates found in Chapter 5, as well as the EMS-specific templates at the end of this chapter.

### Template 6.1. Core Functions of EMS Systems in the Development of State CSC Plans

This template outlines the optimal core functions and specific tasks under each function for EMS systems—including state EMS offices, regional infrastructure, and local prehospital care providers—in the development of state CSC plans. These functions and tasks are described below.

**Function 1. Assessment of Jurisdictional Authority and Planning Resources.** A crucial aspect of planning for CSC is collaboration, cooperation, and inclusivity across jurisdictions and all emergency health care system stakeholders, including the public (see Chapter 9). The development of plans for the implementation of CSC with respect to EMS should begin with a review of the salient legal authorities and existing mutual-aid agreements. Legal considerations should include liability protection for EMS personnel and agencies when CSC are in effect, changes in dispatch protocols, use of disaster triage protocols, altered staffing and transportation modes, just-in-time training, and scope-of-practice modifications for EMS personnel. Additional legal considerations may be relevant to the provision of EMS under CSC conditions, as outlined in Chapter 4.

In general, state EMS offices have the statutory authority to license EMS agencies (ambulances), license or certify personnel (emergency medical responder, emergency medical technicians, paramedics), designate hospitals as trauma specialty centers, and establish statewide standardized protocols and guidelines for EMS. State EMS offices also may have the statutory authority, scope, and jurisdiction to develop disaster plans and to oversee and coordinate the provision of EMS within the state during a disaster. Therefore, it is imperative for the state EMS office, in conjunction with state legal counsel, to review legal and regulatory authorities for the protection of agencies and personnel during a disaster. This review should encompass provider liability, licensing and credentialing alternatives, and mutual-aid agreements. The state EMS office should understand how authorities and protections can be used to

facilitate CSC strategies, including the modification of treatment, triage, and dispatch protocols; staffing and operational standards; and destination policies.

The state EMS office also should review potential changes in scopes of practice for EMS personnel. Inclusion of the community paramedicine program may be helpful during a CSC incident, especially for providing more comprehensive medical care in rural communities (IOM, 2011). The liabilities and protection for this function should be reviewed with legal counsel and the state EMS medical director.

**Function 2. Development of Consistent and Comprehensive Plans Under the State Disaster Medical Advisory Committee (SDMAC) Structure.** In its 2009 letter report, the committee recommended the establishment of an SDMAC (IOM, 2009a). Prior to a disaster, the SDMAC has a critical role in developing CSC plans. During a disaster, it provides ongoing advice to the state health department and medical authority on the implementation of CSC, as well as on a variety of health and medical issues. The SDMAC should include broad representation from the state emergency health care system and be multidisciplinary, including specialists in pediatric, trauma, mental health, and palliative care, as well as the needs of at-risk populations. The committee should also address the ethical considerations in CSC planning (as discussed in Chapter 4).

The SDMAC may be a subcommittee of an existing committee. For example, most state EMS offices have state-level EMS/trauma system advisory committees that could serve as the disaster medical advisory committee, and should coordinate with the SDMAC and not create a new committee. However, if the state health department has provided leadership in the committee's establishment, the creation of an EMS workgroup may be considered to address specific EMS issues. The state EMS office and state EMS medical director can assist the state health department and SDMAC in the development of consistent CSC pertinent to EMS personnel and providers.

Conducting an inventory/assessment of existing plans and available resources within the state before initiating CSC planning will assist in identifying gaps. In some cases, regional EMS/trauma advisory committees and health care coalitions may already have developed CSC plans and also maintain an inventory of resources. It is important for the SDMAC and state EMS office to assess the availability of these plans/resources and to contact neighboring states regarding interstate integration, the subject of a recommendation in the committee's letter report (see Chapter 1). Several states have developed surge capacity plans through the ASPR cooperative agreement and may also have mass casualty incident plans. After-action reports from functional and tabletop exercises may provide some guidance for CSC planning as well.

**Function 3. Stakeholder and Public Engagement.** One of the recommendations in the committee's letter report was to seek community and provider engagement (see Chapter 9). Ensuring that the public and other stakeholders understand and provide input into CSC planning is essential. The public and other stakeholders need to understand the difficult decisions that will have to be made by various health care providers and how principles of fairness and equity can be applied to the distribution of scarce resources.

While responsibility for public engagement may reside with state and local health departments, EMS stakeholders should have an opportunity to provide input on the CSC plan. The state EMS

medical director can play an important role in this regard, utilizing the expertise and input of medical directors for EMS agencies, medical directors consulted via telemedicine, EMS personnel, and agency supervisors.

**Function 4. Monitoring, Evaluation, and Modification of the CSC Plan.** All stakeholders within the emergency health care system should understand and assess the application of CSC plans and policies. The EMS component of the CSC plan should be integrated with other state and regional/local operational plans. Stakeholders should know when the plan will be implemented, and partners at all levels should have a copy of the plan. Analysis of patient care reports and after-action reports should be completed to assess the plan's implementation. The state EMS office, in collaboration with the state health department and emergency management agency (EMA), should routinely exercise the plan, track changes, educate the public and stakeholders about any changes, and continue to solicit input from the public and stakeholders once the plan has been implemented.

## Template 6.2. Core Functions of EMS Systems and EMS Personnel in the Implementation of CSC Plans

This template provides basic guidance on the optimal core functions and tasks for EMS systems and EMS personnel in the implementation of CSC plans at the state, regional, and local levels. It is understood that while disasters happen locally, resources at various jurisdictional levels are needed during a disaster. Note that no distinction is made here between public and private EMS ambulance providers. All means of ambulance transport should be planned for and integrated into a coordinated state CSC plan for response to a catastrophic disaster. Contract and union issues should be addressed and resolved as part of the planning process prior to the implementation of the CSC plan.

### *EMS Systems*

**Function 1. Assessment and Activation.** The state EMS office should assume a lead role in collaboration with the state public health agency and state EMA regarding the response to a disaster. It is the responsibility of the state EMS office to assist local agencies in recognizing the magnitude of the incident and determining whether it is necessary to implement the state CSC plan. As the incident progresses, the state EMS office should confer with the SDMAC regarding medical care and policy issues and when to activate the CSC plan. It is essential for dispatch centers/call centers, EMS providers, and the state EMS office to recognize when to activate and authorize implementation of the CSC plan, including resources such as poison control centers, 211 centers, and nurse referral centers, based on the triggers identified in the plan.

**Function 2. Alerts and Notifications.** Each state EMS office should strive to develop and utilize a statewide integrated communications system to provide and receive timely alerts during a CSC incident. The state EMS office should be responsible for activating the CSC plan, in collaboration with the state health department and EMA, and for ensuring that notification of the plan's implementation reaches all key stakeholders. The state EMS office may also need to provide information directly to the public

or the news media, a role that should be managed in a timely manner and with prescribed messages, if possible. To ensure immediate notification, the system should be redundant and interoperable with the systems of all first-response agencies, including law enforcement, public health, EMS, and hospitals. The implementation of electronic incident management systems may assist in the notification process while also enabling monitoring of resources and patient destinations.

The regional infrastructure and local providers need to understand what actions to take when the state EMS office or lead ESF-8 agency sends notification of a crisis or potential crisis situation. They may also need to provide consistent messages and notifications to the public or the media. They should understand that communication with the state EMS office is essential for authorizing CSC strategies as additional resources will be scarce.

Dispatch and call centers also play a key role in the alert and notification process, and should understand when to send messages to stakeholders regarding the activation and termination of the CSC plan.

**Function 3. Command.** The state emergency management agency is responsible for implementing the ICS and will work with the state EMS office in activating appropriate emergency operations centers (EOCs) during a disaster. The state EMS office, along with regional and local EMS agencies, should utilize the ICS within affected jurisdictions. All staff should be trained and exercised in the use of CSC strategies, such as alternate destinations, transportation modes, and staffing configurations.

The state EMS office staff should be well trained in and understand incident action planning and how to incorporate appropriate technical experts into the planning process for long-term incidents. The state EMS office also should ensure that staff have the job aids needed to guide decisions to activate, implement, and terminate the CSC plan.

All stakeholders should understand the role of the ESF-8 lead agency in a CSC incident and how the chains of command of the state EOC and agency internal coordination center coordinate the development, communication, and implementation of new CSC strategies in response to incident-specific demands.

**Function 4. Control.** It is the ultimate responsibility of the state EMS office staff to understand how to request additional medical resources from the federal government. They also should know how to integrate and track the requested assets within jurisdictions, regional structures, and local emergency management and public health systems.

The state EMS office should ensure that EMS providers utilize triage, treatment, transport, and transfer protocols approved by the medical director within the response area as required during a CSC incident. Medical direction at the state and local levels is key to the successful implementation of CSC strategies. Local EMS providers need to be familiar with the CSC strategies and know when to implement them.

The regional EMS infrastructure and local EMS agencies should work in cooperation with local law enforcement and understand the EMS options for security and access control during a disaster. This consideration should be integrated into the planning process as well.

**Function 5. Communications.** The state EMS office, in coordination with the state joint information center (JIC), should have the staff and resources to ensure the real-time exchange of information among stakeholders necessary to assess the magnitude of the incident and evaluate ongoing resource needs and requests. This function is essential when federal resources may be needed and when the necessity of implementing the CSC plan must be determined.

The state EMS office also should ensure that policies and procedures are in place to provide and receive situational communications among staff, facilities, and agencies within the affected region. This means having the ability to use e-mail, text messaging, paging, telephone, amateur radio, satellite phone, and other devices. Communication with stakeholders and the public should be both transparent and timely. Other means of communicating with the public and the news media should be established, such as announcements, handouts, postings, traditional media, and web-based and social media.

State, regional, and local EMS agencies, as well as PSAPs (dispatch or call centers), should utilize interoperable and redundant systems to communicate with each other. The system should be able to access EOCs, hospitals, and law enforcement and public health entities.

To facilitate better communications among organizations, the state EMS office, regional and local EMS agencies, and medical directors need to understand the roles and functions of the SDMAC, state EMS medical director, state health officer/commissioner, regional medical coordination centers, regional call centers, regional EMS or trauma advisory committees, and local agencies and resources, and how information is received from or communicated to these bodies.

**Function 6. Coordination.** The state EMS office should understand how to request interstate assets through the EMAC process, as well as how to request medical and other assets through the federal coordinating center for the ASPR/National Disaster Medical System (NDMS). Through the planning process and in cooperation with the state EMA and state health department, the state EMS office should know how to integrate these outside assets with existing resources. The ability to utilize an electronic incident management system may be beneficial in tracking assets and patients. All stakeholders should be familiar with the incident management system, using it daily and exercising its capacity to manage assets and patients during a disaster. Therefore, it is essential for state and local EMS agencies to understand the authority, scope, and jurisdiction for all response organizations within a region and how they interface within the ICS during a CSC incident.

**Function 7. Public Information.** All EMS system providers and stakeholders need to be proactive in communications to the public (see Chapter 9). The state EMS office and local EMS agencies, utilizing the ICS, should ensure risk communication and consistent messaging to the public via the media. The public may need to receive instructions, coordinated through the state, on how to care for patients at home, where to seek alternate care, how to call a referral center, and what limitations may be set on EMS response.

With the implementation of the ICS, all stakeholders within the emergency health care system should coordinate information with other response organizations through the joint information system (JIS) and JIC to ensure accuracy and consistency of messaging.

**Function 8. Operations.** As discussed at the beginning of this chapter (and in greater detail in Chapter 2), there are three levels of emergency care: conventional, contingency, and crisis. Medical direction for determining which level of care to provide is essential for EMS personnel. Each level of care requires that stakeholders understand their roles and what strategies to implement and protocols to follow.

With *conventional care*, it is important for the state EMS office, regional infrastructure, and local EMS providers to understand their roles and authority in providing routine care through medically approved triage, treatment, and transport protocols and the use of normal modes of transportation, staffing, and equipment, including mutual-aid resources.

When *contingency care* is necessary, local EMS providers deploy and engage mutual-aid agreements/operations and response plans to substitute, conserve, and adapt staffing, transportation, patient triage, and destinations while still providing medical care that is functionally equivalent to conventional care.

When *crisis care* is required, EMS providers activate mass casualty and surge capacity plans/strategies that include reuse and reallocation of supplies, alternate modes of transportation (buses), sheltering in place and transport to alternate care sites, modification of the ambulance staffing configuration (one medical person and a driver), use of medically approved protocols for patient care based on established triggers in the CSC plan, dispatch screening protocols, regional call centers to assist with coordination of assets and patient destinations, treatment and release of patients under specific guidelines, and 211, 311, and other call centers (e.g., nurse call centers). Under CSC, the state EMS office and local EMS providers should understand and know how to declare and operate under emergency orders to facilitate the provision of sufficient care. As with conventional and contingency care, it is critically important during CSC to coordinate with regional health care coalitions to ensure a common operating picture and coordinated care delivery strategies.

Within the medical branch of the ICS, the state EMS office should understand when to shift from contingency to crisis care based on the assessment and recommendation of the SDMAC and should know how to identify specific needs of response organizations and resources at risk. This includes understanding the process for requesting resources and coordinating these resources with federal partners and regional and local response organizations.

The state EMA may activate the state EOC and the crisis care annex of the emergency operations plan. The state EMS office and state health department should understand their roles and how to utilize the expertise of the SDMAC. Agency responsibilities may include waivers of regulatory standards for transportation and staffing modes, activation guidelines and triggers, medical records, and triage decisions.

*Mental health* care under CSC will require specific competencies of mental health, social services, and health care staff (discussed in the mental health section of Chapter 4). Efforts also will be required to enhance community resilience through “neighbor-to-neighbor, family-to-family” support systems (such as certain psychological first aid models created specifically for use by community members). The resilience of the health care workforce, including those in EMS, is paramount to the success of the CSC strategy.

One-shot, one-size-fits-all approaches, such as some stress debriefing once common in EMS, are no longer recommended and may result in exacerbating the mental health problems of those most affected by a disaster (Bisson et al., 1997, 2007; IASC, 2007; McNally et al., 2003; NIMH, 2002). The

replacement for those outmoded approaches is more integrated efforts to enhance the resilience of the workforce specifically with respect to mass casualty events, including CSC, as part of CSC preparedness (Schreiber and Shields, 2012).

EMS incident command operations need to encompass integrated mental health care as part of overall ICS/EOC and medical/health operations. Recent models developed for Los Angeles County, Seattle/King County, the American Red Cross's National Operations Center/Disaster Mental Health, and a new national prototype specifically for children utilize real-time situational awareness of triage/mental health risk in patients/disaster victims and responders (including health care workers, EMS workers, and their families) across varied disaster systems of care (e.g., hospitals, schools, shelters, public health settings) to guide actual mental health operations within the ICS (Schreiber et al., in press). Other recommended features include a common operating picture of

- population-level mental health risks (traumatic loss, multiple traumatic losses) using a common rapid mental health triage system across disaster systems of care, including EMS;
- mental health risk among EMS and health care workers; and
- mental health resources, including emerging national models of Internet-based intervention (Ruggiero et al., 2006).

Addressing the social and psychological challenges of CSC requires a triage-driven mental health incident management system and community resilience efforts through community engagement (see Chapter 9). Also required are basic “neighbor-to-neighbor, family-to-family” psychological first aid competencies that leverage the community, responders, and family members as the first line of psychosocial support (see the American Red Cross’s “Coping in Times of Crises” and the “Listen, Protect and Connect” psychological first aid models).

The state and local CSC response should encompass *palliative care*. The state EMS office, with medical direction, should define the role of EMS personnel in providing symptomatic management for patients needing palliative care and should provide the necessary training and resources for EMS personnel (San Francisco Emergency Medical Services Agency, 2011). State and local medical directors should address palliative care in the CSC annex of the emergency operations plan, including triage tools and any agency-specific protocols or policies (which should be approved by medical directors at the state agency level).

**Function 9. Logistics.** At the state, regional, and local levels, it is important to know about the available *staffing resources* within jurisdictions and to utilize established processes for requesting and allocating the workforce (Medical Reserve Corps [MRC]; Emergency System for Advance Registration of Volunteer Health Professionals [ESAR-VHP]; state strike teams; NDMS teams; military/National Guard personnel, including ambulances). The state EMS office and local EMS providers should have the capability to assess the number of staff available for large-scale incidents, possibly through personnel rosters, licensing/certification databases, or personnel registries.

Local EMS agencies, through regional and state infrastructures, should utilize a resource monitor-

ing system to track staffing resources and understand when to activate mutual-aid agreements or alternate staffing patterns. Ambulance supervisors must be able to ensure that call-back criteria and policies are in place, including maintenance of current and accurate employee contact information. This is a function for state EMS office response staff as well.

Finally, state EMS offices and regional and local EMS providers should ensure that their staff receive personal preparedness training to assist with family needs and are prepared for on-site accommodation of staff and family members, as appropriate.

The management of *transportation* resources, such as ambulances, and essential *equipment* is a key logistical element of the EMS response to a CSC incident. Therefore, the state EMS office should conduct an assessment of the types and locations of EMS transportation and equipment resources available within the state and know how to request resources from other jurisdictions (through EMAC, the federal ambulance contract, the NDMS, medication caches, all public and private ambulance providers, equipment trailers). The state EMS office, regional EMS infrastructure, and local EMS agencies should utilize a resource tracking or deployment system to monitor the availability of ambulances and understand when to engage other modes of patient transportation. The state EMS office and local EMS agencies, with medical direction, should work together to identify strategies for appropriate substitution, conservation, adaptation, reuse, and reallocation of scarce equipment and supplies.

In a CSC response, *space* for treating patients in hospitals will become extremely limited. EMS providers play a key role in triaging patients and can reduce the burden placed on hospitals during a disaster. Therefore, and consistent with alternate care site planning under way through the Hospital Preparedness Program, the state EMS office and local EMS providers need to understand when to initiate plans to transport patients to alternate care sites and the processes for requesting and allocating such space. They need to be able to recognize when to activate alternate call centers to provide information to the public (such as 211 or nurse triage centers); implement treat-and-release protocols; and identify regional staging areas for use when major mutual aid will be required but specific assignments are not yet available, and understand support requirements for those sites.

The state EMS office should also assist with dispatcher training and certification and establish standards for medical priority dispatch systems that can be modified for use during a disaster. Dispatch centers should not only be capable of using prearrival instructions on a daily basis but also be prepared to utilize CSC dispatch protocols and alter resource assignments.

Finally, the state EMS office and local EMS providers, through state and regional advisory committees/councils and medical directors, should identify *special populations*—patient groups requiring special consideration with respect to transportation, treatment, equipment, and supplies. EMS personnel must be trained in managing children, the elderly, burn patients, special-needs patients, and non-English-speaking patients. Not only should EMS personnel be trained in and exercise these skills, but equipment and supplies should be readily available to support the needs of these at-risk populations. This work should be coordinated with local health departments and emergency management.

**Function 10. Planning.** The state EMS office may be assisting the state health department as the lead ESF-8 agency. It is important for the state EMS office's ICS to understand how to interface with unified ICS, in particular the planning section and planning cycle, as well as how to work with the SDMAC, as technical experts, in activating the CSC plan and other strategies. Local EMS agencies should be familiar with the SDMAC and its role in determining the activation of the CSC plan. Additional technical specialists and state, regional, and local medical directors should understand how to interface with the ICS and planning section.

In collaboration with existing regional structures, state and local EMS agencies should establish policies and procedures to integrate external staffing resources (MRC, ESAR-VHP, state strike teams, disaster medical assistance team [DMAT]) during a disaster based on mutual-aid agreements, EMAC, the NDMS plan, the emergency operations plan, and appropriate annexes. To this end, they should develop an educational program and materials to orient external staffing resources on local, regional, and state triage and treatment policies and applicable elements of the state CSC plan.

Through established state and regional advisory committees, state and local EMS providers should develop policies for *personnel management*, such as altered staffing configurations, shift lengths, and staff roles, and address any collective bargaining issues that may arise prior to an incident. This phase of planning provides an opportunity to address issues related to workforce unions and private EMS providers. In addition, the need for nonmedical assistance for families, volunteers, and external staffing resources within the state should be addressed in regional and local emergency operations plans.

**Function 11. Jurisdiction, Scope, Authority, and Legal/Regulatory Issues.** Since most state EMS offices have the scope, jurisdiction, and authority to support disaster planning and to coordinate a medical response to a disaster, it is essential for the state EMS office and public EMS providers to examine the scope and delegation of authority to incident commanders during a disaster and make any necessary changes to ensure that CSC decisions are supported (i.e., that the incident commander is acting with the authority of the agency/jurisdiction). Similarly, it is important that state public health and EMS officials understand the impact of state and local laws and regulations on the ability of EMS providers to implement CSC and identify solutions to likely obstacles. During a crisis, policy makers may require additional communications and coordination with the incident commander, and the structure of the ICS will most likely be a unified command.

### *EMS Personnel Functions*

It is important for not only state EMS offices, regional infrastructure, local EMS agencies, and dispatch centers but also individual personnel to be prepared to respond to a CSC incident. This template therefore provides basic functions for EMS personnel in response to a CSC incident, including having an understanding of the ICS, plans, protocols, communications systems, mutual-aid agreements, disaster triage, mental health training, and legal obligations and liabilities.

**Function 1. Notification.** It is critical that EMS personnel understand how their roles and responsibilities during CSC implementation may differ from the routine. To ensure efficient notification at the time of a disaster requiring CSC, all contact information and means of communication (e.g., telephone, text

messaging) should be up to date, and regular exercises in incident messaging should be conducted by EMS in coordination with all the relevant stakeholders.

**Function 2. Command, Control, Communications, and Coordination.** It is important that EMS personnel understand how to execute their individual roles—including to whom and where they should report, how to request resources, and how to use backup communications systems—prior to the implementation of CSC. Routine training and exercising of each role in the command structure can improve knowledge of the triage protocols, alternate resources, and staffing provided for by the CSC plan.

**Function 3. Public Information.** EMS personnel should know of all potential sources of information in a disaster and key contacts within each to facilitate efficient bidirectional communications and situational awareness.

**Function 4. Operations.** To ensure appropriate and timely transitions from conventional to contingency to crisis care, it is important that EMS personnel understand how to utilize their organizational resources—resource management system, disaster triage protocols, mass casualty plans—to assess available resources for a disaster situation and evolving needs for those resources. When a disaster has overcome organizational resources, EMS personnel should know when and how to activate mutual-aid agreements and set up and operate EOCs. It is important to train in and exercise operations within a unified ICS command structure so these personnel will be able to determine solutions for challenges that may arise during a disaster outside of the pressures of a real, unfolding incident.

**Function 5. Logistics.** To maintain situational awareness and consistency in applying CSC, it is important that individual EMS personnel maintain routine familiarity with backup *communications* systems; interoperable systems that interface with other first responders; and systems that track patients and resources in real time, whether web-based or in hardcopy format.

Because *staffing* issues, as discussed above, are critical to EMS agency functions during a disaster response, individual staff should understand and have appropriate expectations for the impact a disaster may have on the duration of their shifts and the potential ways in which their roles may change (expand or contract) at different phases of CSC implementation.

While EMS agencies should manage *transportation* (e.g., ambulances) and *equipment* resources and *supplies* on broad scale, individual EMS personnel are responsible for knowing how and from where to access additional assets. When resource demand outstrips availability such that all additional assets have been exhausted, EMS personnel should know how to allocate scarce resources using CSC protocols (including palliative care protocols if applicable).

**Function 6. Mental Health.** Disasters that require CSC can significantly impact the mental health of both responders and the affected public. As EMS personnel operate at the front lines of response, they should be instructed in how to recognize normal and abnormal stress responses, and know how to access mental health support for themselves and their patients.

**Function 7. Legal Issues.** EMS personnel will be better able to respond to a disaster if they are sure of their legal responsibilities and protection with regard to implementing CSC. A component of this awareness is an understanding of how and by whom a disaster is declared, and of their obligations and liabilities in providing care in traditional (in ambulances) and nontraditional (alternate patient care) settings.

# Template 6.1. Core Functions of EMS Systems in the Development of State Crisis Standards of Care (CSC) Plans

## Function 1. Assess Jurisdictional Authority and Planning Resources

### State and Regional/Local Tasks

#### State Task 1

State EMS office participates with the state lead agencies responsible for CSC planning and implementation (state health department/emergency management agency [EMA]) in assessing the scope, jurisdiction, and authority of existing state and regional EMS infrastructure for CSC planning and implementation:

- advisory committees,
- regional trauma/EMS advisory councils/committees, and
- health care coalitions.

#### State Task 2

State EMS office, in collaboration with the state health department, EMA, and legal counsel, develops an inventory of applicable federal, state, and local legal and regulatory authorities and protections, including those related to EMS personnel and provider agency liability, licensing, credentialing, and mutual aid agreements. Includes

- understanding how authorities and protections can be used to facilitate CSC strategies and identifying gaps to be addressed for revision of the plan, including EMS agency licensing, operations (e.g., staffing, advanced life support [ALS]/basic life support [BLS] licensure), and dispatch center operations; and
- state and local medical directors examining regulatory implications with respect to changing dispatch protocols, ambulance staffing, scope of practice, treat-and-release policies, destination policies, and disaster triage decisions.

### Notes and Resources

*Guidance for Establishing Standards of Care for Use in Disaster Situations: A Letter Report* (IOM, 2009b)

*Preparedness and Response to a Rural Mass Casualty Incident: Workshop Summary* (IOM, 2011)

*Crisis Standards of Care: Summary of a Workshop Series* (IOM, 2009b)

*Principles of EMS Systems* (ACEP, 2005)

*Medical Surge Capacity and Capability: A Management System for Integrating Medical and Health Resources During Large Scale Emergencies* (HHS, 2007)

*EMS Incident Response and Readiness Assessment (EIRRA)* (NASEMSO, 2011a)

*Model Trauma Systems Planning and Evaluation Guide* (HRSA, 2006)

*State Emergency Medical Services Systems: A Model* (NHTSA, 2007b)

*Operational Considerations During Pandemic Events: A Guide for State, Local, and Tribal Governments* (FEMA, 2009)

*Terrorist Injuries: Information and Dissemination Exchange Project* (CDC, 2009)

### State and Regional/Local Task 3

State EMS, regional infrastructure, and local EMS agencies identify and review existing state, regional, and local surge capacity, mass casualty, and CSC plans. Includes

- identifying gaps in the state/regional/local plans;
- reviewing after-action reports from previous functional exercises addressing surge capacity and CSC needs;
- searching resources from other states and national organizations (see the “Notes and Resources” column);
- identifying at-risk populations for inclusion in EMS CSC planning (refer to the EMS for Children program); and
- identifying and reviewing resource documents that may assist state, regional, and local EMS agencies in assessing CSC needs and developing CSC plans.

State, regional, and local surge capacity plans

State, regional, and local mass casualty plans

Pre-arrival dispatch instruction protocols

State EMS statute and regulatory standards

Emergency Medical Assistance Compact (EMAC) and mutual-aid agreements

Area National Disaster Medical System (NDMS) and Metropolitan Medical Response System (MMRS) plans

*EMS Pandemic Influenza Guidelines for Statewide Adoption* (NHTSA, 2007a)

*Resources for Optimal Care of the Injured Patient: 2006* (ACS, 2006)

State, regional, and local emergency operations plans

## Function 2. Development of Consistent and Comprehensive Plans Under the State Disaster Medical Advisory Committee (SDMAC) Structure

### State and Regional/Local Tasks

### Notes and Resources

#### State Task 1

State EMS office establishes a state-level, multidisciplinary, and transparent EMS crisis care workgroup of the SDMAC) to draft portions of the state CSC plan pertaining to the provision of EMS. The workgroup's representation may include

This group may be a subcommittee of an existing advisory committee.

- state health department/Emergency Support Function (ESF)-8 lead for consistency with SDMAC efforts;
- state EMS agency;
- regional EMS/trauma advisory committee;
- regional health care coalition representatives;
- state/local EMA;
- hospital specialty care (trauma, burn, poison control, pediatric);
- EMS agencies (urban, rural, private, and public providers);
- state EMS medical director and regional/agency directors;
- call center and dispatch center personnel;
- additional health care expertise (if applicable, regional medical coordination center or regional DMAC, local clinical care committee and triage team, private practitioners, community clinics, long-term care facilities, medical associations, hospital associations, professional health care associations, and mental health agencies and providers [including American Red Cross Disaster Mental Health]);
- EMS legal counsel; and
- EMS for Children.

Refer to Template 5.1 in Chapter 5.

#### State and Regional/Local Task 2

State EMS office, regional infrastructure, and local EMS agencies outline state and local EMS agency roles, responsibilities, and actions. Includes

- identifying when to activate CSC plans (indicators and triggers, process);
- establishing a CSC component activation and notification process;
- identifying how stakeholders will collaborate with state and federal partners;
- identifying communications and monitoring systems that support resource distribution and allocation;
- identifying strategies and processes for situational awareness; and
- ensuring that private-sector entities are included in planning efforts and identifying their roles.

#### State and Regional/Local Task 3

State EMS office, regional infrastructure, and local EMS agencies ensure connectivity and uniformity with regional advisory committees/councils and other regional resources. Includes

- ensuring consistent disaster triage policies;

- addressing modified pre-arrival instructions and deferral of service or modified resource assignment; and
- integrating call centers, poison control centers, 211 centers and “ask a nurse” resources into CSC plans.

#### **State and Regional/Local Task 4**

State EMS office, regional infrastructure, and local EMS agencies identify clinical and administrative triggers for activation of the CSC plan. Includes

- considering critical infrastructure disruption;
- addressing the doubling of EMS and 911 call volume (or routinely pending calls with potentially life-threatening complaints);
- considering the failure of contingency plans to accommodate call volumes; and
- understanding the transitions from conventional to contingency to crisis standards of care and administrative and operational changes implemented at each level.

#### **State and Regional/Local Task 5**

State EMS office, regional infrastructure, and local EMS agencies consider aspects of palliative care in CSC plans. Includes considering the role of EMS in the provision and facilitation of palliative care, especially in prolonged incident, including necessary education and resources.

#### **State and Regional/Local Task 6**

State EMS office, regional infrastructure, and local EMS agencies integrate mental health response into CSC plans. Includes

- engaging and integrating existing mental health care resources in CSC planning and implementation to develop a mass casualty/ CSC mental health concept of operations (CONOPS);
- training EMS personnel in mass casualty variant of psychological first aid that includes rapid mental health triage; and
- providing a comprehensive EMS responder resilience system for mental health support for all EMS personnel that includes pre-event stress inoculation, personal resilience planning, and triage/self monitoring of responder stress.

#### **State and Regional/Local Task 7**

State EMS office, regional infrastructure, and local EMS agencies ensure that CSC planning at all levels

- establishes clear lines of authority and roles and responsibilities of stakeholders (e.g., state health department, local health departments, state EMA, local EMAs, EMS, health care, federal partners);
- identifies processes for coordinating and facilitating resource requests and allocations (e.g., defines role of state EMA in managing requests and allocations within and across states and with federal assets);
- promotes collaboration with federal partners (e.g., Department of Health and Human Services [HHS]/Office of the Assistant Secretary for Planning and Response [ASPR]) and consistency

in scope of care for federally-deployed ESF-8 assets (i.e., across federal teams and with the state and local entities these federal teams support);

- integrates incident command system principles; and
- ensures inclusion of EMS-specific CSC into state and regional plans as extension of mass casualty or surge capacity planning.

## Function 3. Stakeholder and Public Engagement

### State and Regional/Local Tasks

### Notes and Resources

#### State and Regional/Local Task 1

State EMS office may assist the state health department and the SDMAC in engagement with local EMS stakeholders on CSC planning. Regional and local EMS stakeholders

See Chapter 9 for a detailed discussion of public engagement.

- understand their role in CSC planning and implementation;
- understand the role of local health care stakeholders in CSC planning and implementation;
- understand state CSC processes;
- understand applicable federal, state, and local legal authorities; and
- have the opportunity to review and provide comments on the draft state CSC plan.

#### Regional/Local Task 2

Regional infrastructure and local EMS stakeholders interface with local health care facilities and local health departments/public health agencies to ensure congruency of assumptions and plans.

See Template 5.1 in Chapter 5.

#### State Task 3

To engage the public (including at-risk populations), state EMS office may participate with the state health department and SDMAC to

- coordinate, conduct, and prepare findings on public engagement to help inform the public about the state CSC plan;
- share public engagement findings with regional and local EMS stakeholders to assist them in the development of local and regional CSC policies and plans; and
- make the draft state CSC plan, with the EMS component, available for public review and comment.

#### State Task 4

State EMS office reviews the EMS component of the state CSC plan with applicable public officials (and/or their senior staff) within the state and informs them of their roles in a CSC response.

See Chapter 3.

#### State Task 5

State EMS office ensures that legal authorities are described appropriately in the plan and that recommended actions in the plan are in accordance with applicable federal, state, and local laws and regulations.

## Function 4. Monitoring, Evaluation, and Modification of the CSC Plan

### State and Regional Task 1

State EMS office and regional infrastructure partner with state and regional EMAs to integrate the state CSC plan into appropriate emergency operations plan (ESF-8 Public Health and Medical Annex) and the state surge capacity plan/annex or other state emergency response plan with EMS-specific information, as applicable.

### State and Regional/Local Task 2

State EMS office and regional infrastructure notify EMS stakeholders of plan adoption and strategies to be utilized.

### State Task 3

State EMS office notifies intrastate (regional advisory committee and local EMS committees) and interstate EMS partners, as appropriate, of the adoption of the state CSC plan and distributes the plan to them to promote consistency and transparency in CSC planning and response efforts. State EMS offices informs applicable federal partners with EMS-relevant responsibilities (e.g., HHS regional emergency coordinators) of plan adoption and strategies or likely resource requests that would involve their personnel (e.g., national ambulance contract).

### State and Regional Task 4

State and regional infrastructure make public versions of state and regional CSC plans available on the state EMS or other applicable website for public access. State EMS office and regional infrastructure conduct an awareness campaign throughout the state to inform stakeholders about the state CSC plan and processes.

### State and Regional/Local Task 5

State EMS office, regional infrastructure, and local EMS agencies ensure that state, regional, and local EMS components of the overall CSC plan are operational, up-to-date, and ready for activation. Includes

- conducting regular education with EMS stakeholders, and as appropriate, public officials and the public regarding the plan and its implementation;
- tracking developments in EMS CSC planning and guidance (within and external to the state);
- conducting tabletop and functional exercises involving the EMS component of the CSC plan at the state, regional, and local levels;
- reviewing and updating the EMS component of the plan on a regular (annual or more frequent) basis, as needed;
- soliciting input from EMS and other stakeholders and the public about the plan, including continuing to conduct public engagement activities; and
- notifying EMS and other stakeholders and the public, as necessary, of any substantive changes to the plan.

## Template 6.2. Core Functions of EMS Systems and EMS Personnel in the Implementation of CSC Plans

### Function 1. Assessment and Activation

#### State Task 1

State EMS office, in collaboration with the state public health agency and state emergency management agency (EMA), assumes the role of state EMS lead in collaboration with the state public health agency/ Emergency Support Function (ESF)-8 lead and state EMA. (If the state EMS office is the ESF-8 lead, it follows guidance for state functions and delegates EMS-specific functions below.)

#### State Task 2

Dispatch/call centers, EMS providers, and state EMS office recognize incident and assess medical needs and the necessity of implementing the state CSC plan.

#### State Task 3

State EMS office consults with the state disaster medical advisory committee (SDMAC) regarding medical care and policy issues.

#### State Task 4

State EMS office, in collaboration with the SDMAC, activates/authorizes implementation of the EMS component of the state CSC plan based on triggers identified in the plan.

#### Regional/Local EMS and Dispatch Center Task 5

Regional/local EMS and dispatch centers understand when to initiate jurisdictional CSC plans based on local and regional emergency response plan triggers and the state CSC plan

#### Notes and Resources

State EMS office and local EMS providers, in collaboration with the state public health agency, regularly test the triggers in the CSC plan.

State EMS office has a mechanism in place for ready access to the SDMAC.

### Function 2. Alerts and Notifications

#### State and Regional/Local Task 1

State EMS office utilizes the statewide integrated communications system to provide and receive timely alerts during a CSC incident.

#### State Task 2

State EMS office establishes redundant and interoperable communications systems in case a disaster affects routine communications systems.

#### Regional/Local Task 3

Regional infrastructure and local provides understand what actions to take when state EMS office or lead ESF-8 agency sends notifications about a crisis or potential crisis situation.

#### Notes and Resources

All EMS system stakeholders routinely test the notification system and redundant systems and develop predefined alert messages.

## Regional/Local Task 4

Regional infrastructure and local providers understand when to request that the state ESF-8 lead agency activate/authorize CSC strategies.

## Public Safety Answering Points (PSAPs) and Call Centers Task 5

PSAPs and call centers understand when to send alert messages to stakeholders if the CSC plan is anticipated, activated, and terminated.

# Function 3. Command

## State and Regional/Local Task 1

State EMS office implements the incident command structure (ICS) within affected jurisdictions. Includes

- ensuring that command staff are trained and have exercised the use of alternate care sites, transportation modes, and staffing configurations (and other crisis adaptations) according to local/regional plans;
- ensuring that command staff are well versed in incident action planning and how to incorporate appropriate technical experts (such as the SDMAC) into the planning process for long-term incidents; and
- ensuring that appropriate resources (job aids) are available to guide capacity expansion decisions as needed.

## State Task 2

All stakeholders understand the ESF-8 role in CSC incident and how the chains of command of the state emergency operations center (EOC) and agency internal operations center coordinate the development, communication, and implementation of new CSC strategies in response to incident-specific demands.

### Notes and Resources

Refer to National Incident Management System (NIMS) and CSC plans.

Refer to the committee's letter report (IOM, 2009b) for information on the SDMAC.

State EMS office works closely with the state EMA to regularly exercise operations of the jurisdictional EOCs.

# Function 4. Control

## State and Regional/Local Task 1

State EMS office understands how to request additional resources and integrate requested assets within existing resources. Involves

- jurisdictions, regional structures, and local emergency management and public health systems;
- regional hospital coalitions and regional EMS/trauma committees/councils;
- federal partners (Department of Health and Human Services [HHS]/Office of the Assistant Secretary for Planning and Response [ASPR], Federal Emergency Management Agency [FEMA], National Disaster Medical System [NDMS], Department of Homeland Security [DHS]);
- the Emergency Management Assistance Compact; and
- multistate regional coalitions.

### Notes and Resources

Refer to the NDMS resources available through HHS and the availability of ambulance resources through the federal contract with American Medical Response.

State, regional, and local EMS medical directors strive for standardization

### Regional/Local Task 2

State EMS office ensures that EMS providers utilize triage, treatment, transport, and transfer protocols approved by the medical director within the response area as required during a CSC incident.

### Regional/Local Task 3

Regional EMS infrastructure and local EMS agencies work in cooperation with local law enforcement and understand the EMS options for security and access controls during a disaster.

of protocols to foster consistency for patient care across jurisdictional boundaries or service areas.

## Function 5. Communications

### State Task 1

State EMS office ensures real-time exchange of information among stakeholders to assess the magnitude of the incident and evaluate ongoing resource needs and requests.

### State and Regional/Local Task 2

State EMS office ensures that policies and procedures are in place to provide and receive situational communications among staff, facilities, and agencies within the affected region, including by the following means:

- e-mail, text messaging, paging, telephone, amateur radio, satellite phone, and other devices;
- announcements, handouts, postings, and traditional media; and
- web-based and social media.

### State, Regional/Local, and Dispatch Center Task 3

All stakeholders ensure that interoperable and redundant systems exist to communicate with

- local EMS and dispatch centers,
- EOCs (emergency management),
- the regional medical multiagency coordination center (as applicable),
- hospitals and alternate care facilities in the area,
- federal partners,
- law enforcement,
- other appropriate state agencies (e.g., department of mental health),
- local public health agencies, and
- neighboring states.

### State and Regional/Local Task 4

State EMS office, regional and local EMS agencies, and medical directors understand the roles and functions of the SDMAC, state EMS medical director, state health officer/commissioner, regional medical coordination center, regional call centers, and regional EMS or trauma advisory committees and how information is received or communicated to these bodies.

### Notes and Resources

Refer to the National Highway Traffic Safety Administration's (NHTSA's) EMS Pandemic Influenza Guidelines for State Adoption (NHTSA, 2007a).

Refer to the Pandemic Influenza Appendix of the Hennepin County EMS Council regarding telephone triage, call centers, and protocols (Hennepin County, 2009).

Refer to the Maryland Institute for Emergency Medical Services Systems (MIEMSS) website regarding disaster protocols.

Refer to safecom.gov for assistance with interoperable communications systems.

Implementation of CSC is exercised regularly to ensure understanding of roles.

## Function 6. Coordination

### State Task 1

State EMS office understands interstate assets and Emergency Management Assistance Compact (EMAC) process, as well as NDMS capabilities, and, in cooperation with the state EMA and state health department, how to integrate outside assets with existing resources.

### State and Regional/Local Task 2

State EMS office implements available electronic incident management and patient tracking systems to manage assets and track patient movement.

### State and Regional/Local Task 3

State and local EMS agencies understand the authority, scope, and jurisdiction for all response organizations and how they interface within the ICS during a CSC incident.

### Notes and Resources

See <http://emacweb.org> for the Emergency Management Assistance Compact.

See the ASPR/NDMS website for resources.

## Function 7. Public Information

### State and Regional/Local Task 1

Through the ICS, state EMS office and local EMS agencies ensure appropriate risk communication and consistent messaging to the public via the media, as well as organization-/agency-specific means (website, calling programs, e-mail, social media) regarding use of 911 and EMS resources, when EMS should be called, limitations on response, etc.

### State and Regional/Local Task 2

All stakeholders in the emergency health care system coordinate information with other response organizations through the joint information system (JIS) and joint information center (JIC).

### Notes and Resources

Organizational public information officers (PIOs) are familiar with CSC plans and triggers.

Where possible, scripts are developed to address CSC implementation.

Refer to Public Information Overview: Joint Information (FEMA, 2012).

## Function 8. Operations

### Conventional Care

#### State and Regional/Local Task 1

All EMS stakeholders understand their roles and authority in providing routine care through medically approved triage, treatment, and transport protocols and using normal modes of transportation, staffing, and equipment, including mutual-aid resources.

### Notes and Resources

See Chapter 2 for further discussion of distinctions among modes of care.

## Contingency Care

### State and Regional/Local Task 1

EMS providers expand mutual-aid agreements/operations and response plans to substitute, conserve, and adapt staffing, transportation, patient triage, and destinations while still providing medical care functionally equivalent to conventional care.

State EMS office refers to mapped EMS resources and a resource management system (<http://www.fema.gov/pao/joint.shtm>).

## Crisis Care

### State and Regional/Local Task 1

EMS providers expand mass casualty and surge capacity plans to include

- reuse and reallocation of supplies,
- alternate modes of transportation (buses),
- sheltering in place and transport to alternate care sites,
- modification of the ambulance staffing configuration (one medical person and a driver),
- use of medically approved protocols for patient care based on established triggers in the CSC plan,
- dispatch screening protocols,
- use of regional call centers to assist with coordination of assets and patient destination,
- treat-and-release protocols,
- 211, 311, and other call centers (e.g., nurse call centers), and
- declarations and emergency orders to facilitate the provision of sufficient care.

Refer to state, regional, and local surge capacity and mass casualty plans.

## Medical Care Branch

### State Task 1

State EMS office understands when to shift from contingency to crisis care on assessment of a response in progress or recommendation of the SDMAC and knows how to identify specific needs of response organizations and the resources at risk.

### State Task 2

State EMS office understands the process for requesting resources and coordinating these resources with federal partners and regional and local response organizations.

### State Task 3

State EMA activates the EOC (if not already done) and the crisis care annex that details the role of the SDMAC and waivers of regulatory standards. Includes

- activation guidelines and triggers,
- roles and responsibilities,
- documentation of decisions (medical records and incident documentation), and
- triage protocols and possible decision tools.

Refer to other operational plans such as those for pandemic influenza, regional/area NDMS, mass casualty incidents, and regional/state surge capacity.

## **Mental Health**

### **State Task 1**

State EMS office participates in a rapid mental health triage/incident management system linking local, regional, and state disaster systems of care, including health care facilities and mental health resources, in ICS operations.

Refer to the mental health section of Chapter 4 for a more a detailed list of functions and discussion of examples.

### **State Task 2**

State EMS office provides for access to a continuum of evidence-based mental health interventions for adults and children.

### **Regional/Local Task 3**

Regional infrastructure and local public and private EMS agencies provide training in basic “neighbor-to-neighbor, family-to-family” psychological first aid for the general public and health care workers that includes triage.

### **Region/Local Task 4**

Regional infrastructure and local public and private EMS agencies provide CSC-specific behavioral coping components in risk communications.

### **State and Regional/Local Task 5**

All stakeholders complete a CSC gap analysis with plan to enhance local disaster mental health and spiritual care capacities and capabilities.

### **Regional/Local Task 6**

Regional infrastructure and local public and private EMS agencies develop a health care worker resilience system with integrated triage and referral components.

## **Palliative Care**

### **State Task 1**

State EMS office, with medical direction, defines the role of EMS personnel in providing symptomatic management for patients needing palliative care and provides the necessary training and resources.

Refer to the palliative care section of Chapter 4 for additional information.

### **State Task 2**

With palliative care experts, state EMS office provides just-in-time training that may be appropriate for EMS personnel, especially in a sustained CSC incident.

### **Regional/Local Task 3**

State and local medical directors address palliative care, if appropriate, in the emergency operations plan, including triage tools and any agency-specific protocols or policies (which are approved by medical directors at the state or agency level).

## Function 9. Logistics

### Staffing Resources

### Notes and Resources

#### State and Regional/Local Task 1

State EMS office, regional infrastructure, and local EMS providers understand available staffing resources within jurisdictions and utilize established processes for requesting and allocating the workforce (Medical Reserve Corps [MRC], Emergency System for Advance Registration of Volunteer Health Professionals [ESAR-VHP], state strike teams, NDMS teams, military/National Guard personnel, including ambulances).

Refer to NDMS and EMAC websites.

#### State and Regional/Local Task 2

State EMS office, regional infrastructure, and local EMS agencies utilize a resource monitoring system to track staffing resources and understand when to activate mutual-aid agreements or alternative staffing patterns.

#### State and Regional/Local Task 3

All stakeholders ensure that call-back criteria and policies are in place, including maintenance of current and accurate employee contact information.

#### State and Regional/Local Task 4

State EMS office, regional infrastructure, and local EMS providers have the capability to assess the number of staff available for large-scale incidents.

#### State and Regional/Local Task 5

State EMS office, regional infrastructure, and local EMS providers ensure that staff receive personal preparedness training to assist with family needs and are prepared for on-site accommodation of staff and family members, as appropriate.

### Transportation and Equipment Resources

#### State and Regional/Local Task 1

State EMS office, regional infrastructure, and local EMS agencies conduct an assessment of the types and location of EMS transportation and equipment resources available within the state and know how to request resources from other jurisdictions (through EMAC, the federal ambulance contract, medication caches, equipment trailers).

#### State and Regional/Local Task 2

State EMS office, regional infrastructure, and local EMS agencies, with medical direction, identify strategies for appropriate substitution, conservation, adaptation, reuse, and reallocation of scarce equipment and supplies.

#### State/Regional/Local Task 3

State EMS office, regional EMS infrastructure, and local EMS agencies utilize a resource tracking or deployment system to monitor the availability of ambulances and understand when to engage other modes of patient transportation.

## Space

### State and Regional/Local Task 1

State EMS office, regional infrastructure, and local EMS providers understand when to initiate plans to transport patients to alternate care sites and the processes for requesting and allocating such space.

Refer to Maryland emergency medical dispatch (EMD) protocol.

### State and Regional/Local Task 2

State EMS office, regional infrastructure, and local EMS providers are able to recognize when to activate alternate call centers (such as 211 or nurse triage centers) to provide information to the public.

### Regional/Local Task 3

Regional infrastructure and local EMS providers understand when to initiate treat-and-release protocols and processes approved by state and agency medical directors.

### Regional/Local Task 4

Regional infrastructure and local EMS providers identify regional staging areas for use when major mutual aid will be required but specific assignments are not yet available, and understand support requirements for those sites.

### PSAPs and Call Centers Task 5

PSAPs, regional call centers, and dispatch centers understand when to utilize CSC dispatch protocols and alter resource assignments.

## Special Populations

### State and Regional/Local Task 1

State EMS office, regional infrastructure, local EMS providers, and medical directors identify patient groups requiring special consideration with respect to transportation, treatment, equipment, and supplies.

Refer to the Pediatric Emergency Mass Critical Care Task Force supplement (Task Force for Pediatric Emergency Mass Critical Care, 2011). The full-text articles are available free of charge on the Pediatric Critical Care Medicine website.

### State and Regional/Local Task 2

Local EMS personnel are trained and exercised in managing special populations, including pediatric, burn, elderly, and non-English-speaking patients, and purchase and stockpile tools, equipment, and supplies to address special-population needs.

## Function 10. Planning

### Disaster Medical Advisory Committee

#### Notes and Resources

#### State Task 1

State EMS office understands how to interface with incident command, in particular the planning section and planning cycle, as well as how to interface with the SDMAC, its role in activating the CSC plan, and other strategies.

Refer to SDMAC charter and state CSC plan.

#### State and Regional/Local Task 2

Technical specialists and medical directors understand their interface with command and planning sections.

## Personnel Management

### State and Regional/Local Task 1

In collaboration with existing regional structures, state and local EMS agencies establish policies and procedures to integrate external staffing resources (MRC, ESAR-VHP, state strike teams, disaster medical assistance team [DMAT]) during a disaster based on mutual-aid agreements, EMAC, the NDMS plan, emergency operations plan, and appropriate annexes.

Refer to information on the MRC, ESAR-VHP, NDMS, and EMAC on the ASPR and FEMA websites.

### State and Regional/Local Task 2

In collaboration with existing regional structures, state and local EMS agencies develop an educational program and materials to orient external staffing resources on local, regional, and state triage and treatment policies and applicable elements of the state CSC plan.

### State and Regional/Local Task 3

State and local EMS providers develop policies for personnel management, such as altered staffing configurations, shift lengths, and staff roles, and address any collective bargaining issues that may arise prior to an incident.

### State and Regional/Local Task 4

Need for nonmedical assistance for families, volunteers, and external staffing resources is addressed within the emergency operations plan.

## Function 11. Jurisdiction, Scope, Authority, and Legal/Regulatory Issues

### Notes and Resources

### State and Regional/Local Task 1

State EMS office and EMS providers examine the scope and delegation of authority to incident commanders during a disaster and make any necessary changes to ensure that CSC decisions are supported (i.e., that the incident commander is acting with the authority of the agency/jurisdiction). During a crisis, policy makers may require additional communications and coordination with the incident commander.

Refer to state and local legal counsel.

### State and Regional/Local Task 2

State EMS officials understand the impact of the CSC plan on the provision of patient care within the appropriate jurisdiction, understand state and local laws and regulations that would impact the response organizations' ability to implement CSC, and identify possible solutions.

Refer to Chapter 2 for a detailed discussion of legal functions.

## EMS Personnel Functions

### Function 1. Notification

#### Task 1

EMS personnel understand call-back roles and responsibilities during an incident, including potential roles that may vary from routine, such as ICS positions.

## **Task 2**

EMS personnel ensure up-to-date contact information. Exercises in incident messaging are conducted.

## **Function 2. Command, Control, Communications, Coordination**

### **Task 1**

EMS personnel understand where they report and to whom they answer during a disaster and how to execute their roles.

### **Task 2**

EMS personnel understand how to contact and request resources from dispatch and/or EMS command personnel.

### **Task 3**

EMS personnel undergo training and exercising in their appropriate role in the command structure, including

- knowledge of plans, resources, and actions for the full continuum of care in their jurisdiction, such as use of triage protocols, alternative resources, and staffing; and
- understanding and use of appropriate job action aids to guide decisions and activities based on applicable emergency operations plans.

### **Task 4**

EMS personnel understand and are able to use interoperable communications and backup systems.

## **Function 3. Public Information**

### **Task 1**

EMS personnel know of all potential sources of information in a disaster and key contacts within each (web, Twitter, hotline, etc.).

## **Function 4. Operations**

### **Task 1**

EMS personnel understand how to utilize the resource management system and assess the need to expand from conventional to crisis care and activate the CSC plan.

### **Task 2**

EMS personnel understand when and how to apply disaster triage protocols, the EMS pandemic influenza plan, and mass casualty plans, if available.

### **Task 3**

EMS personnel understand when to activate mutual-aid agreements, the emergency operations center, and the emergency operations plan.

#### **Task 4**

EMS personnel undergo training and exercising in their ICS role and are able to function within the unified command or multiagency command ICS structure.

### **Function 5. Logistics**

#### **Communications**

##### **Task 1**

EMS personnel understand how to utilize interoperable communications systems, backup communications systems, the patient tracking system, and the incident/resource management system (web-based and/or hard copy).

#### **Staffing**

##### **Task 1**

EMS personnel understand how staffing and hours may change during a disaster.

##### **Task 2**

EMS personnel understand how role may be changed/expanded (scope of practice) during crisis, including integration of staffing resources from other jurisdictions.

##### **Task 3**

EMS personnel understand how changes in record keeping and other duties may occur in crisis situations (e.g., where to find and how to use paper forms).

##### **Task 4**

EMS personnel are aware of changes to treat-and-release protocols.

#### **Transportation, Equipment, and Supplies**

##### **Task 1**

EMS personnel understand how to access supply caches and trailers from other jurisdictions.

##### **Task 2**

EMS personnel understand what to do in case of shortages when crisis plans are in place (shelter in place, reuse supplies, use alternative modes of transportation).

### **Function 6. Mental Health**

##### **Task 1**

EMS personnel understand how to access local mental health and employee support resources, including any incident-specific mental health information or resources.

#### **Notes and Resources**

The mental health section of Chapter 4 provides a more

### Task 2

EMS personnel are aware of the site-based mental health triage system in place for at-risk patients and coworkers and for self-triage.

detailed discussion of functions.

### Task 3

EMS personnel are trained in psychological first aid and integrated, evidence based mental health triage techniques.

## Function 7. Legal Issues

### Notes and Resources

### Task 1

EMS personnel understand their legal obligations and liabilities in providing crisis care in the ambulance and in alternate patient care settings when

Chapter 3 describes legal issues in depth.

- a disaster or public health emergency is declared;
- a disaster or public health emergency has not been declared; and
- they have other disaster relief functions (for example, serving as an MRC or DMAT member).

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