These materials were produced using federal emergency preparedness and response grant funding while Mr. Gravely was a partner at another firm.

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Gravely Group is making these materials available to the public, without charge, in response to the national public health emergency caused by the novel coronavirus.

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Critical Resource Shortages: A Planning Guide for Hospitals

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CONTRIBUTORS

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DEFINITIONS

Critical Resource: A resource that is necessary to provide care to sustain human life, prevent permanent injury/disability or stabilize a patient experiencing a medical emergency. Critical Resources can include people, places and things.

Critical Resource Shortage Event (CRSE): A circumstance in which a Critical Resource is depleted, and all alternate methods of obtaining the Critical Resource have been exhausted, such that remaining resources will not allow a hospital to treat patients in accordance with the traditional standard of care.

Critical Resource Shortage Response Plan (CRSRP): The resulting plan that encompasses all of the decisions, policies and protocols developed with the assistance of the CRSPG and that governs how an individual facility or Planning Unit will respond to a Critical Resource Shortage Event.

Disaster or Emergency: Any (i) any natural disaster including, but not limited to, any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, earthquake, drought, fire, communicable disease outbreak, or other natural catastrophe that threatens or causes damage to property, human suffering, hardship, or possible loss of life or (ii) man-made disaster including, but not limited to, acts of war or terrorism by conventional, nuclear, radiological, chemical or biological means; or industrial, nuclear, or transportation accident, explosion, fire, power failure or resource shortages that threatens or causes damage to property, human suffering, hardship, or possible loss of life.

EMS Provider: EMS providers are those providers that supply prehospital health care services for patients with real or perceived emergencies from the time of emergency telephone access until arrival and transfer of care to the hospital.

Goal: The ultimate purpose that the CRSRP and Protocols are designed to accomplish. Examples of Goals used in existing literature on allocation of scarce resources during a disaster include, but are not limited to, greatest good for the greatest number (AHRQ), greatest good for the greatest number with side constraints (CDC), and saving the greatest number of lives.

Planning Unit: The level at which Critical Resource Shortage planning occurs. The Planning Unit can be a single facility, a health system, a community, a region or a state depending on the relationship, characteristics and needs of the acute care facilities within that Planning Unit. The Planning Unit may remain constant for all activities in the Planning Guide or it may vary based on the task.

Protocols: Protocols created to respond to a Critical Resource Shortage Event, as defined herein, pursuant to which delivery of care provided with the scarce Critical Resource is modified or the scarce Critical Resource is allocated to do the most good for the greatest number of patients.

PLANNING GUIDANCE

Pre-Event/Preparedness Phase: There are certain resources for which it is foreseeable that during an Emergency or Disaster there will be a Critical Resource Shortage Event (CRSE). For these items, a facility should determine how it will respond to the CRSE before it occurs.

Planning Unit:

1. Determine the "Planning Unit" for following key activities in the CRSPG:
    - ❒ Conducting a Critical Resource Vulnerability Analysis (Section 3)
    - ❒ Establishing baseline ethical principles (Section 4)
    - ❒ Establishing baseline operational principles (Section 5)
    - ❒ Identifying governmental Protocols (Section 6)
    - ❒ Developing Protocols related to critical shortages of materials, physical space and personnel (Section 7)
    - ❒ Identifying or developing triage Protocols for Emergency and Disaster situations (Section 8)
    - ❒ Developing ad hoc Protocols (Section 9)
    - ❒ Coordinating with EMS providers (Section 10)
    - ❒ Educating staff (Section 12)
    - ❒ Exercising and drilling Critical Resources Shortage Response Plans and Protocols (Section 13)

1.1. The Planning Unit can be a single facility, a health system, a community, a region, a state or a group of states.

1.2. The appropriate Planning Unit may vary for each activity. For instance, the facilities in your region may want to collaboratively establish baseline ethical principles. Because of operational variation, however, these same facilities may want to establish baseline operational principles independently.

1.3. Members of the Planning Unit will ultimately be responsible for providing care during a CRSE by implementing CRSRPs and the Protocols included therein. As a result, if the Planning Unit chosen for a specific activity is larger than a single facility, it is important to make sure that members of the Planning Unit update their individual facilities' CRSRPs and Protocols in response to the decisions made by the Planning Unit.

Planning Committee:

2. Identify an existing committee(s) or establish a new committee that will be responsible for conducting the key activities noted above, such a conducting a Critical Resource Vulnerability Analysis or establishing baseline principles that will be used when determining how to respond to a Critical Resource Shortage. Depending on the Planning Unit chosen for each activity (single facility or multiple facilities), there may be multiple Planning Committees created.

   2.1. Regardless of the number of Planning Committees needed, each Planning Committee should represent a broad spectrum of disciplines.

      2.1.1. Obtain representation from appropriate nursing specialties (e.g. critical care, emergency department, floor and operating room), medical staff leadership, physicians from appropriate specialties (e.g. intensivists, surgeons, internal medicine, pediatrics, emergency medicine, trauma, hospitalists, primary care, palliative care), and representatives from therapy services, administration, laboratory, pharmacy, information systems (whoever is involved in results reporting, e.g. lab, x-ray), ethics, legal, emergency medical services (See Section 10) and Incident Command (logistics, planning and operations – clinical).

   2.2. If the Planning Unit is larger than a single member, obtain representation from each member within the Planning Unit.

   2.3. If multiple Planning Committees will perform these functions, ensure that there is an executive committee who is responsible for management and oversight of the various committee responsibilities and the process in general.

Critical Resource Vulnerability Analysis:

3. Conduct a Critical Resource Vulnerability Analysis to determine which Critical Resources may become limited in the event of an Emergency or Disaster.

   3.1. The committee tasked with conducting this analysis should brainstorm and create a list of all those resources necessary to sustain human life, prevent permanent injury/disability or stabilize a patient experiencing a medical emergency.

      3.1.1. Resources should be categorized as equipment/supplies, physical space or personnel.

      3.1.2. With respect to personnel, the committee should identify those skill sets that will be needed to respond to the Emergencies and Disasters identified in the Planning Unit's most recent hazard vulnerability analysis. (If the Planning Unit itself does not have a hazard vulnerability analysis, the committee should rely on the analyses of the facilities within the Planning Unit.) Once skill sets are identified, they should be classified as a "Critical Resource" if they are necessary to sustain human life, prevent permanent injury/disability or stabilize a patient experiencing a medical emergency, or if few people within the Planning Unit have this skill set and cross

training or just-in-time training is not practical or realistic because of the specialization of the skill.

3.1.3. See Appendix 1 for a sample list of Critical Resources.

3.2. Prioritize those resources identified in the Critical Resource Vulnerability Analysis by determining which of the resources are most likely to be depleted causing a Critical Resource Shortage.

3.2.1. When making this determination consider which resources, when depleted, will have the greatest impact on sustaining patient's lives and which resources are most likely to be critically important and/or depleted in light of the Planning Unit's most current hazard vulnerability analysis. (If the Planning Unit itself does not have a hazard vulnerability analysis, the committee should rely on the analyses of the facilities within the Planning Unit.)

3.2.2. Example: A hospital's top Disaster may be a chemical explosion at a nearby plant. This will cause a large influx of burn patients. Burn care kits will be in high demand and likely depleted. Burn care kits are, therefore, on the top of the hospital's Critical Resource list.

3.3. Identify mechanisms for mitigating depletion of the Critical Resource for the resources as identified in and prioritized by the Critical Resource Vulnerability Analysis. Examples of mitigation mechanisms include:

3.3.1. Stockpiling;

3.3.2. MOAs/MOUs for resource sharing; and,

3.3.3. Modification and/or substitution with other resources (e.g. substituting ambu-bags for ventilators).

3.4. Revisit the Critical Resource Vulnerability Analysis at least once every two years or after an Emergency or Disaster.

Baseline Ethical Principles:

4. There is a relative consensus across the country that healthcare providers will use their best efforts to appropriately allocate scarce resources during a Critical Resource Shortage Event. There is much less consensus, if any, on exactly what "appropriately" means and how healthcare providers will make this decision. To make this decision, your Planning Unit needs a guiding ethical framework. This section of the Planning Guide walks the Planning Unit through a three step process to develop such a framework in which it will (i) identify ethical principles, (ii) define the Goal of the CRSRP and Protocols, and (iii) determine conceptually how to alter standards of care and allocate scarce resources to meet its Goal. The ethical framework created in this Section will become part of the Planning Unit's Critical Resource Shortage Response Plan and inform the development of specific Protocols. As you struggle with development of Protocols, you will want to revisit this ethical framework often to confirm that your planning decisions remain consistent with your ethical framework.

STEP 1 – IDENTIFY ETHICAL FRAMEWORK PRINCIPLES:

4.1. Identify if there are any existing ethical principles developed or adopted by governmental entities (local, state, federal) with jurisdiction over your facility and/or Planning Unit.[1]

4.1.1. Have any governmental entities put forth any ethical principles to be used during a CRSE? If so, are they mandatory?

4.1.1.1. If they are mandatory, proceed to Section 4.3.

4.1.1.2. If they are not mandatory, your facility and/or Planning Unit should develop its own baseline ethical principles for use during a CRSE. See Section 4.2, which will guide the Planning Unit through development of these ethical principles.

4.2. Develop ethical principle to be used during a CRSE.

4.2.1. Determine the "Planning Unit" for establishing ethical principles.

4.2.1.1. Consider whether the Planning Unit should be the state, region, community, healthcare system, or individual hospital.

4.2.1.2. When making this determination, consider the need or desire for consistency in ethical principles across providers within the Planning Unit.

4.2.1.3. If the Planning Unit consists of any healthcare providers with religious affiliations (e.g., a hospital owned/operated by a religious order), consider whether these providers have any ethical mandates or other controlling religious authorities that will impact their view of or ability to accept certain ethical principles.

4.2.1.4. If different Planning Units are responsible for determining the ethical principles (Section 4.2), defining a Goal for CRSRPs and Protocols (Section 4.4) or determining implementation specifications (Section 4.6), your must consider how these various Planning Units will interact.

4.2.2. Identify ethical principles that will be relevant in responding to the specific Critical Resource Shortage Event.

4.2.2.1. There is an increasingly robust and growing body of literature on the need for and use of ethical principles during a CRSE. Facilities/Planning Units must be familiar with this literature, update their research regularly, and evaluate which baseline ethical principles, if any, are appropriate for their needs. See Appendix 4 for a partial listing of literature on ethical principles.

4.2.2.2. Consider the following **substantive** ethical principles (those principles that should guide *decisions* about altering standards of care and allocating of scarce resources)

- Individual liberty

[1] When addressing the questions in this section, look at both existing resources and those that are under development or anticipated for future promulgation.

- Protection of the public from harm
- Proportionality
- Privacy
- Duty to provide care
- Reciprocity
- Trust
- Solidarity
- Stewardship

4.2.2.3. Consider the following **procedural** ethical principles (those principles that should guide the *process* by which decisions about altering standards of care and allocating scarce resources will be made)

- Reasonable
- Open and transparent
- Inclusive
- Responsive
- Accountable

4.2.3. Identify any potentially conflicting principles and prioritize them.

4.2.3.1. Some of the principles may conflict with other principles. Identify and describe these points of conflict.

4.2.3.2. In many cases, especially where principles conflict or where there are a large number of principles, it will be difficult to make decisions that honor all principles. Recognizing this, it is important to prioritize these principles in advance so that this prioritization will not have to occur in the midst of a CRSE.

4.2.3.3. To prioritize, begin by ranking principles as high, medium, or low priority relative to each other. Ask committee members to distribute the principles equally between these three categories. The committee members should work toward achieving consensus on the prioritization of the principles.

4.2.3.4. Prioritize the procedural and substantive principles.

4.2.4. Develop a communication plan around these principles that will be easy for members of the Planning Unit to understand, assimilate and use.

STEP 2 – DEFINE THE GOAL OF THE CRSRP AND PROTOCOLS:

Be sure that all members of the planning group understand what is meant by "Goal" in this section. The "Goal" is the ultimate purpose that the CRSRP and Protocols are designed to accomplish. Examples of Goals used in existing literature on allocation of scarce resources during a disaster include, but are not limited to, greatest good for the greatest number (AHRQ),

greatest good for the greatest number with side constraints (CDC), and saving the greatest number of lives.

4.3. Identify if there are any existing Goals for Critical Resource Shortage Planning and Response developed or adopted by governmental entities (local, state, federal) with jurisdiction over your facility and/or Planning Unit. While this is unlikely, it is critical that you conduct this "environmental assessment" to be certain.

4.3.1. Have any governmental entities put forth any Goals for CRSRPs and Protocols to be used during a CRSE? If so, are they mandatory?

4.3.1.1. If they are mandatory, proceed to Section 4.5.

4.3.1.2. If they are not mandatory, your facility and/or Planning Unit should develop its own Goal for use during a CRSE. See Section 4.4., which will walk the Planning Unit through development of this definition.

4.4. Develop a defined Goal for the CRSRP and resource specific Protocols.

4.4.1. Determine the "Planning Unit" for defining the Goal.

4.4.1.1. Consider whether the Planning Unit should be the same one used in Section 4.2.

4.4.1.2. Consider whether the Planning Unit should be the state, region, community, healthcare system, or individual hospital.

4.4.1.3. When making this determination, consider the need or desire for a consistent Goal across providers.

4.4.1.4. If the Planning Unit consists of a diverse group of healthcare providers, consider how this diversity may make it easier or more difficult for a consistent defined Goal to be accepted across the Planning Unit.

4.4.1.5. If different Planning Units are responsible for defining the Goal for CRSRP and Protocols (Section 4.4), determining ethical principles (Section 4.2) or determining implementation specifications (Section 4.6), you must consider how these various Planning Units will interact.

4.4.2. Based on the ethical principles determined in Section 4.2, what is the Goal that is guiding the development of the CRSRPs and Protocols?

4.4.2.1. Consider the following, which are offered as examples only and should <u>not</u> be considered mandatory or all inclusive

- Protecting the functionality of society
- Protecting societal and community infrastructure
- Preventing morbidity and mortality
- Greatest good for the greatest number (See AHRQ)
- Greatest good for the greatest number with "side constraints" (See Kinlaw et al.)

- Graceful degradation of care
- Greatest number of people benefited
- Greatest number of lives saved
- Greatest number of life years saved
- Greatest number of quality life years saved

4.4.2.2. Will the Goal change based on the Critical Resource that is being allocated? Will the Goal change based on the primary use of the Critical Resource (treatment vs. prophylaxis)?

4.4.2.3. How prescriptive does the Planning Unit want the Goal to be? Should it be guidance or mandatory?

4.4.2.4. Consider how differing levels of specificity will impact a facility or Planning Unit's ability to implement or develop Protocols.

4.4.2.5. Consider how various audiences (e.g., healthcare providers, patients, local governments) will interpret the Goal based on the specificity.

4.4.3. Develop a communication plan around the definition of the Goal that will be easy for members of the Planning Unit to understand, assimilate and use.

STEP 3 – CONCEPTUAL IMPLEMENTATION OF ETHICAL PRINCIPLES AND THE GOAL:

The ethical principles and defined Goal inform a number of conceptual implementation specifications including:

- Whether resources will be withdrawn from one patient to give to another;
- Whether resources will be withheld and conserved for future patients;
- Whether there are any criteria that should never be used as "exclusion criteria;" and
- What type of alternative resources, if any, should be given to those patients who do not receive the scarce critical resource. (See Section 6 on palliative care.)

These types of general, conceptual decisions will be referred to as "implementation specifications."

4.5. Identify if there are any existing implementation specifications developed or adopted by governmental entities (local, state, federal) with jurisdiction over your facility and/or Planning Unit.

4.5.1. Have any governmental entities put forth any implementation specifications to be used during a CRSE? If so, are they mandatory?

4.5.1.1. If they are mandatory, proceed to Section 5.

4.5.1.2. If they are not mandatory, your facility and/or Planning Unit should develop its own implementation specifications for use during a CRSE. See Section 4.6, which will assist the Planning Unit in developing implementation specifications.

4.6. Determine implementation specifications.

4.6.1. Determine the "Planning Unit" for identifying implementation specifications.

4.6.1.1. Consider whether the Planning Unit should be the same one used in Sections 4.2 and/or 4.4.

4.6.1.2. Consider whether the Planning Unit for the implementation specifications should be the state, region, community, healthcare system, or individual hospital.

4.6.1.3. When making this determination, consider the need or desire for consistency in the implementation specifications across providers.

4.6.1.4. If the Planning Unit consists of a diverse group of healthcare providers, consider how this diversity may make it easier or more difficult for consistent implementation specifications to be accepted across the Planning Unit.

4.6.1.4.1. Consider that the Planning Unit may be composed of similar type providers because they may face similar operational issues (i.e., all CAHs, all tertiary and quaternary care facilities in Planning Unit).

4.6.1.5. If different Planning Units are responsible for determining implementation specifications (Section 4.6), defining a Goal for a CRSRP and Protocols (Section 4.4) or determining ethical principles (Section 4.2), you must consider how these various Planning Units will interact.

4.7. Determine Implementation Specifications.

4.7.1. Withdrawal/Stop. During a CRSE, will providers be allowed to withdraw or stop providing the Critical Resource to one patient to give to another patient for whom the Critical Resource is more appropriate or beneficial?

4.7.1.1. During normal times, healthcare providers will withdraw care once it becomes futile. This withdrawal process is often relatively lengthy and involves obtaining the support and understanding of the patient and his family.

4.7.1.2. If reallocation through withdrawal will be an option to respond to a CRSE, the withdrawal process will likely change. It will have to be much quicker than it is in normal times and it may not always be possible to obtain the support and understanding of the patient's family.

4.7.2. Withhold/Conserve. During a CRSE, will providers be allowed to withhold the Critical Resource from one patient to conserve it for a future patient?

4.7.3. Exclusion Criteria. Are there any factors or patient characteristics that should not be factored into allocation decisions and specific Protocols? Consider the following as inappropriate characteristics on which to base allocation decisions: ability to pay; social worth; patient contribution to the disease; past use of resources; race or ethnicity; religion; and gender. (See California Department of Health Services for examples of inappropriate exclusion criteria http://bepreparedcalifornia.ca.gov/EPO/CDPHPrograms/PublicHealthPrograms/E

mergencyPreparednessOffice/EPOProgramsServices/Surge/SurgeStandardsGuidelines/).

4.7.4. Alternative Resources. What resources should be given to those patients who are not given the Critical Resource?

4.7.4.1. Should these patients be given alternative resources, if available?

4.7.4.2. Should these patients and their families be given palliative care? If so, refer to Section 6.

4.7.4.3. Should these patients remain in the facility, be discharged or transferred to another facility (e.g. alternate care facilities)?

4.7.4.4. Who will make these decisions?

4.7.5. If additional resources become available temporarily, how will this affect the implementation specifications?

4.7.6. Develop a communication plan around the implementation specifications that will be easy for members of the Planning Unit to understand, assimilate and use.

Operational Issues:

5. The Planning Unit identified in Section 1 should address the following operational issues to guide the development and implementation of specific Protocols. The infrastructure established in this Section 5 will aid in the implementation of all Protocols, including those promulgated by governmental agencies.

5.1. CRSE Identification.

5.1.1. Who is the most appropriate person within the organization to identify a Critical Resource Shortage Event? Is this a CEO level decision or a clinical operations decision?

5.1.2. To whom within your incident command structure should this finding be reported?

5.2. CRSRP Declaration and Authorization.

5.2.1. Who within your incident command structure will declare that a Critical Resource Shortage Event exists?

5.2.2. Who within your incident command structure will authorize the implementation of Critical Resource Shortage Response Plan or specific Protocols in it?

5.3. CRSRP Implementation.

5.3.1. Once implementation of a Critical Resource Shortage Response Plan or Protocol is authorized, who within your organization will be designated to make the allocation decisions based on the relevant Protocols addressing those Critical Resources? Will this be one person, a committee, or will individual treating physicians be charged with this duty? Consider also that there may be mandatory governmental Protocols that must be implemented. (See Section 6)

5.3.2. If your facility chooses to designate a person(s), how will they be selected? Will the selection be dependent upon the resource that is scarce or will the selection remain consistent for all resources? Will the committee be the same as the one created in Section 2? Will it be a subset of the committee in Section 2 or will it be composed of different individuals?

5.3.3. What powers will the designated person(s) have?

5.3.4. How will the designated person(s) interact with Incident Command, specifically Medical Control and Resource Management?

5.3.5. How will the designated person(s) interact and coordinate with Medical Control regarding non-compliant physicians? (See Section 5.8)

5.3.6. Can the facility offer additional liability protection for these individuals in recognition of the difficult decisions they will have to make?

5.3.7. Is the designated person(s) covered for decisions made in this role by the facility's insurance policy? If not, should the person(s) be added to the facility's insurance policy for this purpose?

5.4. CRSRP Revision.

5.4.1. Once a Critical Resource Shortage Response Plan or a specific Protocol is activated, how often will the Critical Resource Shortage situation be re-assessed during the event to determine if changes should be made to the response plan or any individual Protocols?

5.4.2. Who within incident command will be responsible for monitoring the situation?

5.4.3. To whom will they report significant changes in the situation?

5.4.4. Who is responsible for altering the Critical Resource Shortage Response Plan and/or the Protocols to accommodate the new situation? Will the person(s) be dependent upon the resource that is scarce or will the person(s) remain consistent for all resources?

5.4.5. How will these intra-event changes be communicated to staff for implementation?

5.4.6. How will these intra-event changes be documented?

5.5. CRSRP Termination.

5.5.1. When should your Critical Resource Shortage Response Plan or specific Protocols in effect be terminated?

5.5.2. Who within your incident command structure will authorize termination of your Critical Resource Shortage Response Plan or specific Protocols?

5.6. Documentation. During Emergencies and Disasters, what type of documentation will practitioners be required to complete? This documentation can be referred to as "essential documentation."

5.7. Communication. What mechanisms will be used to keep facility personnel updated and informed about the implementation of, content of, modifications to, and termination of

Critical Resources Shortages Response Plans or specific Protocols? See Section 11.2.4 for information on inclusion of these mechanisms in your EOP.

5.8. Non-Compliant Providers. What should happen when a provider chooses not to comply with a Critical Resource Shortage Response Plan or specific Protocols within the CRSRP?

5.8.1. With respect to physicians, review Medical Staff bylaws to determine current enforcement powers during an Emergency or Disaster.

5.8.1.1. Identify Medical Control for the facility.

5.8.1.2. Should Medical Control have the authority to take over patient care from individual physicians? If so, is this reflected in the Medical Staff bylaws and in the facility's EOP?

5.8.2. How will the facility address providers who refuse to operate outside their scope of practice when such is required by the Critical Resource Shortage Response Plan or specific Protocols contained in it?

5.8.3. Modify the facility's EOP and Medical Staff Bylaws accordingly.

5.9. Support Services. What mechanisms will be used to provide support and recovery services to employees, patients, and families during the intra-event/response and post-event/recovery phases?

5.9.1. What services will be provided?

5.9.2. Will the facility provide these services or will they contract with an outside organization (e.g. EAP) to provide them?

5.9.3. Facility Human Resources professionals should be involved with developing these mechanisms.

5.10. Decisions about issues presented in this Section 5 should be recorded and communicated to each group charged with developing Protocols for specific Critical Resources identified in the Critical Resource Vulnerability Analysis.

Palliative Care:

6. Palliative Care

6.1. What is the goal of palliative care during a Critical Resource Shortage?

6.1.1. To relieve pain?

6.1.2. To manage symptoms without use of the Critical Resource in question?

6.1.3. To ensure that patients are not abandoned even though they are not receiving the Critical Resource?

6.1.4. Other goals?

6.1.5. Remember that there will likely be individuals receiving palliative care during a Critical Resource Shortage who would not have received palliative care during normal times when the Critical Resource was readily available.

6.2. How will your facility define palliative care during a Critical Resource Shortage Event? Consider the following definitions:

6.2.1. Centers for Medicare and Medicaid Services: "Palliative care means patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering. Palliative care throughout the continuum of illness involves addressing physical, intellectual, emotional, social, and spiritual needs and to facilitate patient autonomy, access to information, and choice."

6.2.2. World Health Organization: "An approach which improves the quality of life of patients and their families facing life-threatening illness, through the prevention, assessment, and treatment of pain and other physical, psychosocial, and spiritual problems."

6.2.3. Joint Commission: "Palliative care is an approach designed to improve the quality of life of patients and their families by relieving the pain, symptoms and stress of serious illnesses such as cancer or AIDS."

6.2.4. National Consensus Project for Quality Palliative Care: "Palliative care focuses on the relief of suffering and distress for people facing serious, life-threatening illness to help them and their families to have the best possible quality of life, regardless of the stage of the disease or the need for other therapies. Palliative care is both a philosophy of care and an organized, highly structured system for delivering care. Palliative care expands traditional disease-model medical treatments to include the goals of enhancing quality of life for patient and family, optimizing function, helping with decision making, and providing opportunities for personal growth. As such, it can be delivered concurrently with life-prolonging care or as the main focus of care."

6.3. Review your facility's existing protocols, policies and procedures for palliative care during normal times.

6.3.1. How should these be modified for use during a Critical Resource Shortage? Refer to the remainder of this Section when modifying these policies.

6.4. Who will provide palliative care?

6.4.1. What training is needed to prepare these individuals?

6.4.2. What emotional and psychological support will be provided for these individuals?

6.5. Are there palliative care support organizations in your area that can provide assistance?

6.6. Decisions about issues presented in Section 6 should be recorded, incorporated into the CRSRPs and communicated to each group charged with developing Protocols for specific Critical Resources identified in the Critical Resource Vulnerability Analysis.

Governmental Protocols:

7. Identify if there are any existing or anticipated Protocols developed or adopted by governmental entities (local, state, federal) with jurisdiction over your facility and/or Planning Unit.

   7.1. Do any federal Protocols for altering standards of care or allocating scarce critical resources during a CRSE currently exist? If so, are they mandatory? If they are not mandatory, how will your Planning Unit consider them as part of its Protocol development? (See Section 8).

   7.2. Do any state Protocols for altering standards of care or allocating scarce critical resources during a CRSE currently exist? If so, are they mandatory? If they are not mandatory, how will your Planning Unit consider them as part of its Protocol development? (See Section 8).

   7.3. Do any local or regional Protocols for altering standards of care or allocating scarce critical resources during a CRSE currently exist? If so, are they mandatory? If they are not mandatory, how will your Planning Unit consider them as part of its Protocol development? (See Section 8).

   7.4. Are there any initiatives underway that will result in federal, state or local Protocols for altering standards of care or allocating scarce critical resources during a CRSE? If so, will the resulting Protocols be mandatory? If they are not mandatory, how will your Planning Unit consider them as part of its Protocol development? (See Section 8).

   7.5. Who within the facility's or Planning Unit's incident command structure is responsible for monitoring federal, state or local public health agencies to identify any Protocols that may be promulgated during a CRSE which will address altering standards of care or allocating scarce critical resources?

   7.6. Who within your incident command structure is responsible for obtaining and reviewing the state or local emergency declaration, if one is made, and determining whether the declaration impacts the standard of care or allocation of scarce critical resources?

   7.7. How will mandatory federal, state or local Protocols be implemented at your facility? See Section 5 regarding establishing an implementation infrastructure.

   7.8. How will the existence of federal, state or local Protocols impact a provider's potential liability for using an altered standard of care or allocating scarce critical resources? Consult with legal counsel when assessing potential liabilities.

   7.9. If no federal, state or local Protocols exist, your facility and/or the Planning Unit should develop Protocols to address shortages of the critical resources identified in the Critical Resource Shortage Vulnerability Analysis according to the prioritization. (See Section 8).

Protocol Development:

8. If no mandatory federal, state or local Protocols exist, your facility and/or Planning Unit will have to develop its own Protocols to address the resources identified in the Critical Resource Vulnerability Analysis according to the prioritization. For critical shortages of material

resources, refer to Section 8.3. For a critical shortage of physical space, refer to Section 8.4. For a critical personnel shortage, refer to Section 8.5.

8.1. There is an increasingly robust and growing body of guidance, protocols, standards and other literature evaluating different methods for modifying care and allocating scarce resources during a CRSE. (This body of work includes the non-mandatory governmental Protocols identified in Section 7.) Facilities/Planning Units must be familiar with this literature, update their research regularly, and evaluate which documents, if any, are appropriate for their needs. See Appendix 2 for a partial listing of this literature to aid in your Protocol development.

8.2. For each Critical Resource identified in the Vulnerability Analysis for which federal, state or local Protocols do not exist, assemble a small group tasked with developing a Protocols for inclusion in your Critical Resource Shortage Response Plan that address the shortage of the specific Critical Resource in question.

8.2.1. Groups should be composed of at least one facilitator, IC (logistics, planning and/or operations – clinical), at least two physicians representing the relevant field/specialty, a nurse representing the relevant field/specialty, a palliative care specialist (if available), any other type of clinician representing those whose practice will be impacted by the Critical Resource Shortage, an administrative representative, and a representative of the ethics committee.

8.2.2. Groups should be subcommittees of the committee(s) that conducted the Critical Resource Vulnerability Analysis.

Critical Shortage of Material Resources:

8.3. Using the ethical and operational principles developed in Sections 4 and 5 of this Planning Guide, respectively, each small group should address the following issues with respect to the specific critical *material resource* (e.g. equipment, medications) in question to create Protocols to include in your Critical Resource Shortage Response Plan.

8.3.1. Does the facility and/or Planning Unit already have a plan in place to mitigate a shortage? If not, such a plan should be created. If so, the remainder of this planning process assumes that mitigation is no longer a feasible option.

8.3.1.1. This will require an evaluation of the facility's "surge" plan and its plans to share resources with other facilities in its region.

8.3.2. At what point will a Critical Resource Shortage exist? At what point will clinicians have to change their practice based on the shortage? Are there varying levels of shortage that will impact practice in different ways?

8.3.3. What type of services will be impacted by the Critical Resource Shortage?

8.3.4. How will these services change during the Critical Resource Shortage?

8.3.5. Will the change in service depend on the severity of the Critical Resource Shortage? In other words, will there be different plans or Protocols that apply to different severities of Critical Resource Shortages?

8.3.6. How will patients be triaged for the Critical Resource in question? What patients will receive the Critical Resource first, second, third, etc.? Refer to the ethical principles established in Section 4.

8.3.7. When there is a Critical Resource Shortage, what criteria will determine whether the patient is given the resource?

8.3.8. What criteria will dictate that a patient should not receive the resource as a result of the Critical Resource Shortage?

8.3.8.1. Refer to decisions made in Section 4.7.3 regarding those criteria that should not be used to justify withholding a Critical Resource from a patient.

8.3.9. If applicable pursuant to your facility's and/or Planning Unit's established ethical principles as defined in Section 4.1 and to the Critical Resource in question, under what clinical circumstances will the hospital/provider withdraw the Critical Resource from one patient to give to another patient for whom use of the Critical Resource is more appropriate?

8.3.10. Based on decisions made in Sections 4.7.4, what specific resources will be provided to those patients who will not receive the Critical Resource?

8.3.11. If in Section 5.3.2 the facility decided to use a designated person(s) to make allocation decisions who is chosen based on the Critical Resource being allocated, who is the appropriate person(s) for this resource?

8.3.12. Which types of providers (MDs, RNs, LPNs) will use the Critical Resource in question to provide care?

8.3.13. What type of training is needed pre-event to aid implementation of the specific Protocols and the overall Critical Resource Shortage Response Plan? What training will be conducted at the time of the event to aid implementation or allow for those not typically involved in using this Critical Resource to become involved ("just-in-time" training)?

8.3.14. What specific documentation is required to document services rendered pursuant to the Critical Resource Shortage Response Plan or specific Protocols therein based on the definition of "essential documentation" determined in Section 5.6? How will this documentation be captured during the Emergency?

Critical Shortage of Physical Space:

8.4. Using the ethical and operational principles developed in Sections 4 and 5 of this Planning Guide, respectively, each small group should address the following issues with respect to a critical shortage of *physical space* within the facilities used to deliver care to create the Protocols contained in the Critical Resource Shortage Response Plan.

8.4.1. At what point will a critical shortage of physical space exist? At what point will clinicians have to change their practice based on the shortage?

8.4.2. What type of services will be impacted by the critical shortage of physical space?

8.4.3. How will these services change during the critical shortage of physical space?

8.4.4. What alternative locations can be used to provide services to patients during the critical shortage?

8.4.4.1. When choosing alternative locations, the following should be taken into consideration.

8.4.4.1.1. What utilities (e.g. medical gases, electricity, water, communication capabilities) are needed? Are these already available in the alternative location? If not, can they quickly be made available in the alternative location?

8.4.4.1.2. Are there any support services (e.g. OR recovery space) that need to be in close proximity to the service that is being displaced?

8.4.4.1.3. For what is the alternative location currently being used? Is there equipment, furniture, or people that will need to be moved from that space in order to use it?

8.4.4.1.4. Will existing patients be transferred to the alternative location, or will only new patients be treated in the alternative location? If existing patients will be transferred, how will this be accomplished?

8.4.4.2. Potential locations for alternative space may include administrative space, conference rooms, medical office buildings, or space where non-essential services have been discontinued for the duration of the Emergency or Disaster.

Critical Personnel Shortage:

8.5. Using the ethical and operational principles developed in Sections 4 and 5 of this Planning Guide, respectively, each small group should address the following issues with respect to a *critical personnel shortage* to create the Protocols included in the Critical Resource Shortage Response Plan.

8.5.1. Does the facility and/or Planning Unit already have a plan in place to mitigate the critical personnel shortage? If not, such a plan should be created. If so, the remainder of this planning process assumes that mitigation is no longer a feasible option.

8.5.1.1. This will require an evaluation of the facility's/Planning Unit's "surge" plan and its plans to share human resources with other facilities and to obtain additional human resources through volunteers and medical reserve corps in its region.

8.5.2. At what point will a critical personnel shortage exist? At what point will clinicians have to change their practice based on the shortage? Are there varying levels of shortage that will impact practice in different ways?

8.5.3. What services will be impacted by the critical personnel shortage?

8.5.4. How will these services change during the critical personnel shortage? Will certain services cease, while others expand or are reduced?

8.5.5. Will the change in services depend on the severity of the critical personnel shortage? In other words, will there be different plans or protocols that apply to different severities of critical personnel shortages?

8.5.6. How will patients be triaged for services provided by the critical personnel in question? What patients will receive the services first, second, third, etc.? Refer to the ethical principles established in Section 4.

8.5.7. When there is a critical personnel shortage, what criteria will be used to determine whether the patient is treated by the critical personnel?

8.5.8. What criteria will be used to determine that a patient should not be treated by the critical personnel as a result of the critical personnel shortage? .

8.5.8.1. Refer to decisions made in Section 4.7.3 regarding those criteria that should not be used to justify withholding a Critical Resource from a patient.

8.5.9. For those patients who will not be treated by the critical personnel, will they be treated by another category of staff member in the facility? By a family member? By volunteers? By nonclinical personnel?

8.5.10. Can the number and type of delegable duties be expanded to help address the critical personnel shortage?

8.5.10.1. Do your facility's/Planning Unit's policies limit licensed personnel's scope of practice more than that required by statute? If so, can the policies be amended during a critical personnel shortage to allow licensed personnel to do more? How, if at all, can licensed providers obtain expanded privileges during a critical personnel shortage to address the problem?

8.5.11. What type of training is needed pre-event to aid implementation of the Critical Resource Shortage Response Plan and/or specific Protocols in it? What training will you conduct at the time of the event to aid implementation or allow for those not typically involved in providing these services to become involved ("just-in-time" training)?

8.5.12. Will a critical personnel shortage affect the ability to produce "essential documentation" as defined in Section 5.6? If so, what can be done to ensure that "essential documentation" is completed during the critical personnel shortage?

8.6. The Protocols developed under Sections 8.3, 8.4, and 8.5 should be reduced to writing and incorporated into the CRSRP.

Triage Protocols:

9. Develop or identify emergency department triage Protocols that will be used during a CRSE.

9.1. Have any governmental entities put forth, or are they planning to put forth, Protocols for Emergency Department triage during a CRSE? If so, are they or will they be mandatory? If they are not or will not be mandatory, your facility and/or Planning Unit will have to

develop its own Protocols for emergency department triage during a CRSE. How will your Planning Unit consider any non-mandatory governmental emergency department triage Protocols as part of its development of such Protocols? (See Section 8.)

9.2. There is an increasingly robust and growing body of guidance, protocols, standards, and other literature evaluating different methods for conducting triage in an emergency department during a mass casualty event. Facilities/Planning Units must be familiar with this literature, update their research regularly, and evaluate which triage mechanisms, if any, are appropriate for their needs. See Appendix 3 for a partial listing of triage protocols to assist you in your Protocol development.

9.3. To begin developing emergency department triage Protocols, convene a group or use an existing group composed of at least a facilitator, at least two emergency room physicians, an emergency room nurse, IC Medical Control (e.g. operations-clinical and mass care), a palliative care specialist (if available), EMS representatives, an administrative representative, and a representative from the ethics committee.

9.4. Group will:

9.4.1. Determine at what capacity levels current triage mechanisms will not be appropriate or practical. The group may choose to take a tiered approach to answering this question by designating several "breaking point" capacities. When determining "breaking points," the group should take into account at least the following:

9.4.1.1. Number of patients presenting;

9.4.1.2. Time frame of the influx of patients (e.g. hours v. days v. weeks);

9.4.1.3. Method of presentation (e.g. EMS v. self-refer);

9.4.1.4. Severity of expected injury/illness;

9.4.1.5. Number of staff available;

9.4.1.6. Number of beds available;

9.4.1.7. Amount of space for waiting patients; and,

9.4.1.8. Location of triage.

9.4.2. Determine which triage protocols (existing or new) should be implemented at each "breaking point" identified.

9.4.3. Based on decisions made in Sections 4.4.4, what specific resources will be provided to those patients triaged to a non-treatment category (e.g. expectant)?

9.5. The triage protocols developed under this section should be reduced to writing and incorporated into the CRSRP.

Ad Hoc Protocols:

In an Emergency/Disaster situation, unforeseen Critical Resources will become scarce leading to a need to implement new Protocols. Because by definition these shortages are unforeseen, the facility or Planning Unit cannot create specific Protocols addressing these shortages ahead of time.

Facilities and Planning Units can use the following process to determine Protocols to respond to these unforeseen Critical Resource Shortages during an Emergency/Disaster.

NOTE: It is possible that facilities and/or Planning Unit will not have had the opportunity to develop Protocols for Critical Resources identified in the Critical Resource analysis. The process described below can be used for shortages of these Critical Resources as well.

10. Create mechanisms to operationalize the creation of Protocols for resources for which no plan is pre-existing during an event.

    10.1. Identify individuals who will be called upon to develop Protocols in the midst of an Emergency or Disaster.

        10.1.1. Identify and prioritize at least two representatives from the ethics committee.

        10.1.2. Identify and prioritize at least two administrators.

        10.1.3. Identify and prioritize physicians from each specialty represented on the Medical Staff.

        10.1.4. Notify all identified individuals that they have been so identified, explain the scope of their responsibilities during an Emergency or Disaster, obtain signed agreement that the individuals will fulfill their duties during the Emergency or Disaster.

    10.2. Create a contact list for all identified individuals that is to be kept with all other EOP materials.

    10.3. Review the hospital's bylaws to ensure that in the event of an Emergency or Disaster, a few members of the governing body are vested with the authority to approve ad hoc Protocols. If this power does not exist, the bylaws should be amended to so provide.

Coordination with EMS Providers:

Any disaster or emergency that results in a CRSE for hospitals is also going to significantly impact EMS providers who will be on the front lines. (See Section 10.1.1 for a definition of "EMS provider".) While each event is unique, both the ability of EMS providers to transport patients to acute care facilities and the ability of the acute care facility to accommodate patients brought in by EMS are likely to be affected.

During "normal" times, a hospital and the EMS provider(s) servicing it have varying degrees of interaction. Based on the type of hospital and type of EMS provider, these interactions may be more or less extensive and may be the result of varying degrees of planned clinical and management integration. During a disaster which places stress on the healthcare system, hospitals and EMS provider(s) each may abandon any degree of existing integration and retreat to their respective silos. This will not benefit the hospital, the EMS providers or the victims of the disaster. To avoid this result, hospitals and EMS providers must recognize their interdependencies during a disaster and collaboratively plan a coordinated response to CRSEs. Understanding and developing strategies for dealing with the impacts of a CRSE requires joint consultation and planning between acute care facilities and EMS providers. This section addresses the planning considerations that acute care facilities should consider in conjunction with EMS providers.

11. Engage in collaborative planning and coordination with EMS providers to determine how the EMS providers will impact your facility's implementation of its Critical Resource Shortage Response Plan and the Protocols contained in it.

11.1. Identify all EMS providers that operate within your service area.

11.1.1. Recognize that there are various types of providers that are usually included under the title of "EMS" and this may vary from state to state and community to community within a state. While this includes ambulance services, it is usually much broader than that (ambulance, emergency medical transporters). For the purposes of this Section 11, EMS providers are those which provide prehospital health care for patients with real or perceived emergencies from the time of emergency telephone access until arrival and transfer of care to the hospital.

11.1.2. Recognize that EMS providers are all structured differently. Some are owned and operated by municipal government; some are private, unaffiliated providers; and, some are affiliated with or owned by private health systems. These differences may impact how the EMS provider will respond and the EMS provider's ability to receive reimbursement in a disaster.

11.1.3. Recognize that the type of personnel used by the EMS provider will impact the provider's ability to continue operations during a disaster and the type of services that the EMS provider can render. For instance, the EMS provider may use emergency medical technicians (EMTs) or paramedics who may be career, volunteer or a combination of both. The paramedics will likely have a greater scope of practice than the EMTs. Those who volunteer may be unavailable during a disaster due to competing demands on their time.

11.1.4. As you consider the issues presented in this Section 11, talk to EMS providers about how their legal structure and type of personnel may impact their ability to continue operations during a disaster. Do not just assume that it will be "business as usual."

11.2. EMS Response to a CRSE

It is important for acute care facilities to understand that EMS providers may face shortages of critical resources during a disaster just like your facility. This could involve personnel, supplies, equipment or critical support commodities like fuel or oxygen. Shortages in some or all of these critical resources will require that EMS providers alter their operations during a disaster. If EMS providers do alter their operations, like your facility, they will likely do so in response to governmental emergency orders or to support the EMS provider's continuity of operations. This "continuity of operations" concept is important to understand as your facility discusses with EMS its plans for responding a CRSE.

11.2.1. Dispatch planning

11.2.1.1. Are the state or jurisdiction(s) in which the EMS provider operates planning to promulgate any new or modified dispatch protocols during an event? If so,

how will this impact EMS providers? How will it impact the number and type of patients brought by EMS to your facility's emergency department?

11.2.1.2. Is EMS engaged in collaborative planning with emergency medical dispatch (EMD) to understand how, if at all, EMD is planning to prioritize requests for EMS services during a CRSE? Will EMD distinguish between event-related emergencies and non-event related emergencies (e.g. pandemic influenza patients v. non-pandemic influenza patients)?

11.2.1.3. If EMS is overwhelmed by the number of requests for services, how, if at all, is EMS planning to prioritize their response these requests? Will EMS distinguish between event-related emergencies and non-event related emergencies (e.g. pandemic influenza patients v. non-pandemic influenza patients)?

11.2.2. EMS planning for operations during a CRSE

11.2.2.1. Discuss with EMS whether they have created a CRSRP in anticipation of shortages in critical resources. If not, is it planning to do so? Do or will such plans include specific Protocols? It will be important to determine whether each EMS provider is responsible for this type of planning or if the state has centralized this planning.

11.2.2.2. Is EMS planning to alter or modify its primary function during a CRSE? In "normal" times, EMS's primary function is to transport those experiencing a medical emergency to an appropriate facility. During a CRSE, it is possible that EMS will modify this primary function. Alternative functions could include treatment and release, providing surge capacity for other healthcare providers, supplying staff to alternate care facilities, or some combination thereof. How, if at all, will the modification of EMS's primary function impact its scope of services (see 11.2.2.3)?

11.2.2.3. Even if EMS will not modify its primary function, is EMS planning to change the scope of services it provides during a CRSE? This change could be an increase or decrease in scope of services. How, if at all, is the increase or decrease in scope of services related to EMS's primary function or modification thereof (see 11.2.2.2)?

11.2.2.4. Determine if EMS plans to modify, reduce or limit the type of documentation about care provided by EMS to patients during a CRSE? If so, evaluate how this will affect your facility. Do you routinely rely on any documentation made by EMS?

11.2.2.5. How, if at all, will the EMS provider be impacted by a request or directive to transport patients to an alternate care facility instead of an acute care facility? To the extent that your facility, region or state is considering use of ACFs, consider that this may impact EMS providers' ability to seek and obtain reimbursement for their services and thus their ability to continue operations. Determine if Medicare, Medicaid or other payers will reimburse the EMS provider for a transport to a facility other than a hospital.

11.2.3. Impact of EMS's CRSE plans on your facility

11.2.3.1. Discuss with EMS providers' whether their CRSRP or any specific Protocols are based on any assumptions about the way your facility will operate during a disaster. If so, your facility should be aware of these assumptions and discuss them with EMS to either validate or modify the assumptions.

11.2.3.2. How, if at all, can your facility modify its operations to support or decompress EMS providers during a CRSE? Identify the interactions between your facility and EMS during "normal" times and discuss with EMS ways in which these "normal" interactions can be modified during a CRSE.

11.2.3.3. How will changes in the way that EMS providers operate during a CRSE impact your facility?

11.2.3.4. Is there any information that your facility can collect and provide to the EMS provider during a CRSE to help the EMS provider evaluate, re-assess and revise its CRSRP and specific Protocols?

11.3. Change in scope of services provided by EMS during disasters that lead to a CRSE based on your facility's CRSRP and Protocols.

When acute care facilities begin to implement their CRSRPs or specific Protocols therein it will be in response to a mass casualty event that has led to shortages of critical resources at the facility. This could mean that EMS will be dealing both with the event and the changes created by the CRSRP or a specific Protocol. It is possible that your facility's response to shortages of critical resources at your facility will involve asking EMS to either expand or to limit the services that they normally provide. This is a very challenging discussion with many implications that this section will outline.

11.3.1. Who from EMS and your facility should be engaged in discussions about expanding or reducing EMS' scope of services in response to your facility's and/or Planning Unit's CRSRP and Protocols? Recognize that these discussions create legal and regulatory considerations.

11.3.2. Consider how expansion or reduction of EMS' scope of services will impact your facility's and/or Planning Unit's response to the CRSE, including how it may support or interfere with your facility's use of the applicable Protocols. Examples are discussed below.

11.3.2.1. Expansion of EMS scope of services

In a CRSE, it is possible that a component of your facility's CRSRP or a specific Protocol will be to ask EMS providers to expand the scope of services that they provide in order to reduce the number of patients who are being transported to acute care facilities. In most cases, this will mean that EMS agencies are being asked to provide services that they do not normally provide and that they may even be prohibited from providing under state law or regulation. Obviously, these regulatory issues must be addressed which would involve many other parties beyond your facility and the EMS agencies in your area.

11.3.2.1.1. Is there any additional care that EMS can provide in the field to help your facility manage a CRSE?

11.3.2.1.2. Is there any additional testing or evaluation that EMS can provide in the field to help facilitate your facility's use of the applicable Protocol?

11.3.2.1.3. Is there any care that EMS can provide in your facility's emergency department upon arrival with a patient? In your facility's alternate care facility, if you will have one?

11.3.2.1.4. If the answer to any of the preceding questions is yes, begin discussions with EMS regarding whether such expansion is feasible given the legal structure of the EMS provider, type of expanded care identified, the resources required to provide this care, any increased liability risk associated with providing this care, and any scope of practice implications.

11.3.2.2. Reduction of EMS services

In some cases, your facility's CRSRP will involve prioritizing what services are delivered to which patients based upon the medical judgment of your facility's triage officers or triage committee. In these cases, care that is started by EMS in the field may limit the options that your facility has once the patient is delivered to your ED. You should engage EMS in these discussions now to avoid conflict and confusion during an event. Consider the following scenario: Hospital A is experiencing a CRSE with respect to ventilators. According to the Protocol that Hospital A developed and implemented, no patient over 85 years of age will receive ventilator support. These patients will receive nasal cannula oxygen instead. EMS provider is called to the residence of a 93 year old experiencing grave difficulties breathing. All clinical indicators suggest that EMS should intubate the patient and transport him to Hospital A. If the EMS provider intubates the 93 year old patient in the field, how will this impact care provided to the patient upon arrival at Hospital A? Will EMS providers consider withholding this service based on the Hospital A's Protocol?

11.3.2.2.1. Are there any services that EMS should not provide in the field because they interfere with or directly conflict with your facility's and/or Planning Unit's use of the applicable Protocols? If so, is EMS willing to stop providing these services for patients being transported to your facility?

11.3.2.2.2. If EMS does not reduce its services and provides care that directly conflicts or interferes with your facility's and/or Planning Unit's Protocol, how will this impact your facility's use of the Protocol?

11.3.2.2.3. Consider and discuss with EMS how reduction of services may impact EMS' liability and thus its willingness and ability to actually implement such a reduction.

11.4. EMS collaboration with all hospitals to which it transports patients

11.4.1. Consider that EMS providers will likely be having the same conversations regarding Protocols and changing its scope of practice with every facility to which it transports patients.

11.4.2. To the extent that the state will recommend protocols for hospitals, discuss with EMS whether the state office of EMS will be recommending related protocols for EMS.

11.4.3. To the extent that acute care facilities in your area are developing CRSRPs and Protocols independently of each other, consider that it is unrealistic to expect EMS providers to change their scope of practice based on the unique Protocols at each facility to which they transport patients. As a result, if the facilities in your area determine that an expansion or reduction in the EMS scope of service is desirable, consider engaging in jurisdictional or regional planning to help promote consistency between facilities and thus the EMS provider's ability to support facility plans.

11.4.4. If facilities in your area are developing CRSRPs and Protocols independently and are not collaborating to help promote consistency for EMS purposes, discuss with EMS how these differing CRSRPs and Protocols will impact the EMS provider's choice of destination for the patient, if at all.

11.4.4.1. Consider the following scenario for discussion purposes: If Hospital A is not providing ventilator support to anyone over 85 and Hospital B is not offering ventilator support to anyone over 90, to which hospital will the EMS provider take an 87 year old patient assuming that Hospital A and Hospital B are equidistant and the only difference between them is their ventilator allocation protocol? Who within EMS is the appropriate person to make this determination if the question arises?

11.5. Hospital collaboration with all EMS providers that transport patients to its facility

11.5.1. Consider that your facility and/or Planning Unit should be having the same conversations with all EMS providers that transport patients to your facility. To the extent that you have been communicating with each EMS provider instead of a regional or statewide body (See Section 11.2.1), consider how differences in EMS providers' responses to a disaster and resulting CRSE will impact your facility.

11.5.2. If some providers agree to modify the care they provide based on your facility's or Planning Unit's CRSRP and Protocols and others do not, how will this impact your facility's operations during a CRSE?

11.5.3. If such variability will negatively impact your facility's and/or Planning Unit's ability to respond to a CRSE and implement your CRSRP or Protocols, what type of statewide or regional CRS planning can be done among the EMS providers to better help effectuate the desired result?

11.6. Develop a communication strategy about your CRSRP with EMS providers.

11.6.1. Consider whether your facility and/or Planning Unit should communicate with each EMS provider identified in Section 11.1 or whether there is a regional or statewide body that represents EMS with which it would be appropriate or efficient to communicate. Consider communications pre-event, intra-event and post-event separately as the EMS body with which you make contact may change. For example, during pre-event planning, which should be occurring now, you might be dealing with regional or state bodies whereas during an actual event, you might be directed to communicate with each EMS providers.

11.6.2. Identify a point of contact for the communication partner(s) you identified in Section 11.2.1.

11.6.2.1. It is better to identify positions and roles within EMS instead of individuals since the individuals in these roles will change over time and may not be available during an event.

11.6.2.2. Consider whether your point of contact will be the same for all three phases of a CRSE – pre, intra and post-event – or whether it will change based on the event phase. For example, pre-event the point of contact might be you or someone else involved in planning for critical resource shortages whereas during an event, communications will probably be routed through your facility's Incident Command.

11.6.3. Who from your facility will be responsible for communicating the information about your CRSRP?

11.6.3.1. It is better to identify positions and roles within your facility instead of individuals since the individuals in these roles will change over time and may not be available during an event.

11.6.3.2. Consider whether this position will be the same for all three phases of a CRSE – pre, intra and post-event – or whether it will change based on the event phase. For example, pre-event the point of contact might be you or someone else involved in planning for critical resource shortages whereas during an event, communications will probably be routed through your facility's Incident Command.

11.6.4. Which methods will be used to communicate with the EMS point of contact pre-event? Intra-event? Post-event? Possible methods include email, fax, teleconference, video-conference, and in-person meetings. Consider confidentiality, efficiency in terms of time and resources, the nature of the event, and the nature of the information being shared. Consider also that some traditional forms of communication (e.g. telephone) may not be available during an event.

11.7. Ambulance Re-Stocking

11.7.1. Determine whether your facility and/or Planning Unit participates in any ambulance re-stocking programs either independently or as part of a regional or statewide program.

11.7.2. If your facility and/or Planning Unit participates in such programs, identify any ambulance re-stocking agreements that your facility/Planning Unit has with EMS providers.

11.7.3. Review the requirements of these agreements and determine (i) whether your facility/Planning Unit will be able to continue meeting these requirements during an event and (ii) whether your facility/Planning Unit will be able to provide additional supplies during an event.

11.7.4. Discuss with EMS how these requirements can or should be modified. Amend existing agreements to reflect any agreed upon modifications.

11.8. Cooperative Stockpiling

11.8.1. Consider whether your facility/Planning Unit will participate in any bulk purchasing relationships with EMS to create stockpiles.

11.8.2. If so, how will these stockpiles be managed and distributed during a disaster? By your facility? By a larger Planning Unit? By EMS? Through vendor managed inventory?

11.8.3. Determine if your facility/Planning Unit or the EMS providers are eligible or receive distributions from a governmental stockpile (e.g. Strategic National Stockpile). If so, evaluate how this will impact the cooperative stockpiling initiative.

11.8.4. Engage counsel to evaluate the initiative for compliance with applicable healthcare laws and regulations.

11.8.5. Create Memoranda of Understanding between the parties participating in the cooperative stockpiling initiative.

11.9. Documentation

11.9.1. What is the minimum amount of information about a patient that your facility/Planning Unit needs from the EMS provider who brings the patient to the ED? Consider the definition of "essential documentation" determined in Section 5.6.

11.9.2. During a CRSE, how will this information be documented?

11.9.3. Is there any information that the EMS provider can collect to help your facility/Planning Unit evaluate, re-assess and revise its CRSRP and Protocols? (See Section 5.4.)

11.9.4. Has the EMS provider looked at or made any decisions about documentation during a CRSE in connection with its internal planning efforts? (See Section 11.2.2.4.)

Coordination with Non-Hospital Healthcare Providers:

Any disaster or emergency that results in a CRSE for hospitals is also going to significantly impact non-hospital healthcare providers like long-term care, home health care and primary care providers.

While each event is unique, the ability of both hospital and non-hospital providers to provide care for all who seek it is likely to be affected.

During "normal" times, a hospital and the local non-hospital providers have varying degrees of interaction. Based on the type of hospital and non-hospital provider, these interactions may be more or less extensive and may be the result of varying degrees of planned clinical and management integration. During a disaster which places stress on the healthcare system, non-hospital providers may rely more heavily on hospitals to accept transfers from their facilities and care for their sicker patients. Likewise, hospitals may rely more heavily on non-hospital providers to provide care to those that the hospital is unable to care for due to the CRSE. Hospitals and non-hospital providers must recognize their interdependencies during a disaster and collaboratively plan a coordinated response to CRSEs. Understanding and developing strategies for dealing with the impacts of a CRSE requires joint consultation and planning between hospital and non-hospital providers. This section addresses the planning considerations that hospitals should consider in conjunction with non-hospital providers.

12. Engage in collaborative planning and coordination with non-hospital providers to determine how the non-hospital providers will impact your facility's implementation of its Critical Resource Shortage Response Plan and the Protocols contained in it.

12.1. Identify all non-hospital providers that operate within your service area.

12.1.1. Recognize that there are various types of providers that are usually included under the title of "non-hospital" provider. For the purposes of this Section 12, the term non-hospital providers should be construed broadly to include all healthcare professionals and facilities that provide care outside of the hospital.

12.1.2. Recognize that non-hospital providers are all structured differently. Some are nonprofit; some are for-profit; some are private, unaffiliated providers; and, some are affiliated with or owned by private health systems. These differences may impact how the non-hospital provider will respond in a disaster.

12.1.3. As you consider the issues presented in this Section 12, talk to non-hospital providers about how their legal structure may impact their ability to continue operations during a disaster. Do not just assume that it will be "business as usual."

12.2. Non-hospital Provider Response to a CRSE

It is important to understand that non-hospital providers will face shortages of critical resources during a disaster just like your facility. This could involve personnel, supplies or equipment and in some cases, non-hospital providers may face even more severe shortages. Shortages in these critical resources will require that non-hospital providers alter their operations during a disaster. If non-hospital providers do alter their operations, like your facility, they will likely do so in response to governmental emergency orders or to support the non-hospital provider's continuity of operations. This "continuity of operations" concept is important to understand as your facility discusses with non-hospital providers their plans for responding a CRSE.

12.2.1. Non-hospital provider planning for operations during a CRSE

12.2.1.1. Discuss with non-hospital providers whether they have created a CRSRP in anticipation of shortages in critical resources. If not, are they planning to do so? Do or will such plans include specific Protocols? It will be important to determine whether each non-hospital provider is responsible for this type of planning or whether the non-hospital providers have engaged in centralized planning. Recognize that some non-hospital providers may not have engaged in any disaster planning for a variety of reasons including lack of funding for such activities.

12.2.1.2. Are the non-hospital providers planning to change the scope of services they provide during a CRSE? This change could be an increase or decrease in scope of services. If so, evaluate how this will affect your facility.

12.2.1.3. Determine if non-hospital providers plan to modify, reduce or limit the type of documentation they keep related to care provided to patients during a CRSE? If so, evaluate how this will affect your facility. Do you routinely rely on any documentation made by non-hospital providers for any purpose including, but not limited to, billing or regulatory compliance?

12.2.2. Impact of non-hospital provider's CRSE plans on your facility

12.2.2.1. Discuss with non-hospital providers' whether their CRSRP or any specific Protocols are based on any assumptions about the way your facility will operate during a disaster. If so, your facility should be aware of these assumptions and discuss them with non-hospital providers to either validate or modify the assumptions.

12.2.2.2. How will changes in the way that non-hospital providers operate during a CRSE impact your facility?

12.2.2.3. Is there any information that your facility can collect and provide to the non-hospital provider during a CRSE to help the non-hospital provider evaluate, re-assess and revise its CRSRP and specific Protocols?

12.2.2.4. Determine whether your facility can provide any services or resources to non-hospital providers to help bolster their continuity of operations plans.

12.3. Change in scope of services provided by non-hospital providers during a CRSE based on your facility's CRSRP and Protocols.

When acute care facilities begin to implement their CRSRPs or specific Protocols therein it will be in response to a disaster that has led to shortages of critical resources at the facility. It is possible that your facility's response to shortages of critical resources at your facility will involve asking non-hospital providers to either expand or to limit the services that they normally provide. This is a very challenging discussion with many implications that this section will outline.

12.3.1. Who from the non-hospital providers and your facility should be engaged in discussions about expanding or reducing non-hospital providers' scope of services in response to your facility's and/or Planning Unit's CRSRP and Protocols? Recognize that these discussions create legal and regulatory considerations.

12.3.2. Consider how expansion or reduction of non-hospital providers' scope of services will impact your facility's and/or Planning Unit's response to the CRSE, including how it may support or interfere with your facility's use of the applicable Protocols. Examples are discussed below.

12.3.2.1. Expansion of non-hospital provider scope of services

In a CRSE, it is possible that a component of your facility's CRSRP or a specific Protocol will be to ask non-hospital providers to expand the scope of services that they provide in order to reduce the number of patients who are being transferred to acute care facilities. In some cases, this will mean that non-hospital providers are being asked to provide services that they do not normally provide and that they may even be prohibited from providing under state law or regulation. Obviously, these regulatory issues must be addressed. This will involve many other parties beyond your facility and the non-hospital providers in your area and is likely to take substantial time to resolve.

12.3.2.1.1. Is there any additional care that non-hospital providers can provide at their facilities to help decompress your facility?

12.3.2.1.2. Is there any additional testing or evaluation that non-hospital providers can provide prior to transfer to help facilitate your facility's use of the applicable Protocol?

12.3.2.1.3. If the answer to either of the preceding questions is yes, begin discussions with non-hospital providers regarding whether such expansion is feasible given the legal structure and operational capabilities of the non-hospital provider, type of expanded care identified, the resources required to provide this care, any increased liability risk associated with providing this care, and any scope of practice implications.

12.3.2.2. Reduction or limitation of transfers from non-hospital providers to your facility

In some cases, your facility's CRSRP and Protocols will involve prioritizing what services are delivered to which patients based upon the medical judgment of your facility's allocation officers or allocation committee. To the greatest extent possible, allocation decisions related to non-hospital provider patients should be made prior to transfer to your facility and non-hospital providers should refrain from transferring patients who will not be prioritized for resources under your Protocols. You should engage non-hospital providers in these discussions now to avoid conflict and confusion during an event. Consider the following scenario: Hospital A is experiencing a CRSE with respect to ventilators. According to the Protocol that Hospital A developed and implemented, no patient over 85 years of age will receive ventilator support. These patients will receive nasal cannula oxygen instead. A non-hospital provider has a 93 year old patient experiencing grave difficulties breathing. The non-hospital provider has already given the

patient nasal cannula oxygen, but since the patient is still experiencing difficulties breathing, the non-hospital provider wants to transfer the patient to Hospital A for ventilatory care. Should the non-hospital provider transfer the patient to Hospital A? How will it coordinate this transfer with Hospital A? If Hospital A discharges the patient, will the non-hospital provider re-admit the patient?

12.3.2.2.1. If the non-hospital provider continues to transfer patients to your facility when such patients will not be prioritized for resources in accordance with your facility's and/or Planning Unit's Protocol, how will this impact your facility's use of the Protocol?

12.3.2.2.2. Consider and discuss with non-hospital providers how reduced or limited transfers may impact the non-hospital providers' liability and thus its willingness and ability to actually implement such a reduction or limitation.

12.4. Non-hospital provider collaboration with all hospitals to which it transfers patients

12.4.1. Consider that non-hospital providers will likely be having the same conversations regarding Protocols and changing its scope of practice with every facility to which it transfers patients.

12.4.2. To the extent that the state will recommend Protocols for hospitals, discuss with non-hospital providers whether any state agency(ies) will be recommending related Protocols for non-hospital providers and if this is a different agency than those that regulate hospitals.

12.4.3. To the extent that acute care facilities in your area are developing CRSRPs and Protocols independently of each other, consider that it is unrealistic to expect non-hospital providers to change their scope of practice based on the unique Protocols at each facility to which they transfer patients. As a result, if the facilities in your area determine that an expansion or reduction in the non-hospital provider's scope of service is desirable, consider engaging in jurisdictional or regional planning to help promote consistency between facilities and thus the non-hospital provider's ability to support facility plans.

12.4.4. If facilities in your area are developing CRSRPs and Protocols independently and are not collaborating to help promote consistency for non-hospital provider purposes, discuss with non-hospital providers how these differing CRSRPs and Protocols will impact the non-hospital provider's referral patterns, if at all.

12.5. Hospital collaboration with all non-hospital providers that transfer patients to its facility

12.5.1. Consider that your facility and/or Planning Unit should be having the same conversations with all non-hospital providers that transfer patients to your facility. Due to the large numbers of non-hospital providers, it may not be possible for your facility to coordinate with every individual non-hospital provider or even type of non-hospital provider. If the sheer number of non-hospital providers will pose a

challenge, consider prioritizing the non-hospital providers to ensure that your facility at least collaborates with those that will have the greatest impact on your facility. To prioritize, identify those non-hospital providers that may be able to help protect your facility during an event by providing non-hospital care and early triage as well as those that may transfer a large volume of patients to your facility. Consider engaging each type of non-hospital provider as a group instead of individually.

12.5.2. To the extent that you have been communicating with each non-hospital provider individually instead of a regional or statewide body (See Section 12.2.1), consider how differences in non-hospital providers' responses to a disaster and resulting CRSE will impact your facility.

12.5.3. If some non-hospital providers agree to modify the care they provide or the types of patients that they refer based on your facility's or Planning Unit's CRSRP and Protocols and others do not, how will this impact your facility's operations during a CRSE?

12.5.4. If such variability will negatively impact your facility's and/or Planning Unit's ability to respond to a CRSE and implement your CRSRP or Protocols, what type of statewide or regional CRS planning can be done among the non-hospital providers to better help effectuate the desired result?

12.6. Develop a communication strategy about your CRSRP with non-hospital providers.

12.6.1. Consider whether your facility and/or Planning Unit should communicate with each non-hospital provider identified in Section 12.1 or whether there is a regional or statewide body that represents non-hospital providers with which it would be appropriate or efficient to communicate. Consider communications pre-event, intra-event and post-event separately as the non-hospital provider body with which you make contact may change. For example, during pre-event planning, which should be occurring now, you might be dealing with regional or state bodies whereas during an actual event, you might be directed to communicate with each non-hospital providers separately.

12.6.2. Identify a point of contact for the communication partner(s) you identified in Section 12.6.1.

12.6.2.1. It is better to identify positions and roles within non-hospital providers instead of individuals since the individuals in these roles will change over time and may not be available during an event.

12.6.2.2. Consider whether your point of contact will be the same for all three phases of a CRSE – pre, intra and post-event – or whether it will change based on the event phase. For example, pre-event the point of contact might be you or someone else involved in planning for critical resource shortages whereas during an event, communications will probably be routed through your facility's Incident Command.

12.6.3. Who from your facility will be responsible for communicating the information about your CRSRP?

12.6.3.1. It is better to identify positions and roles within your facility instead of individuals since the individuals in these roles will change over time and may not be available during an event.

12.6.3.2. Consider whether this position will be the same for all three phases of a CRSE – pre, intra and post-event – or whether it will change based on the event phase. For example, pre-event the point of contact might be you or someone else involved in planning for critical resource shortages whereas during an event, communications will probably be routed through your facility's Incident Command.

12.6.4. Which methods will be used to communicate with the non-hospital provider point of contact pre-event? Intra-event? Post-event? Possible methods include email, fax, teleconference, video-conference, and in-person meetings. Consider confidentiality, efficiency in terms of time and resources, the nature of the event, and the nature of the information being shared. Consider also that some traditional forms of communication (e.g. telephone) may not be available during an event.

12.7. Cooperative Stockpiling

12.7.1. Consider whether your facility/Planning Unit will participate in any bulk purchasing relationships with non-hospital providers to create stockpiles of any resources that you feel will be in short supply during a disaster.

12.7.2. If so, how will these stockpiles be managed and distributed during a disaster? By your facility? By a larger Planning Unit? By a non-hospital provider? Through vendor managed inventory?

12.7.3. Determine if your facility/Planning Unit or the non-hospital providers are eligible or receive distributions from a governmental stockpile (e.g. Strategic National Stockpile). If so, evaluate how this will impact the cooperative stockpiling initiative.

12.7.4. Engage counsel to evaluate the stockpiling initiative for compliance with applicable healthcare laws and regulations.

12.7.5. Create Memoranda of Understanding between the parties participating in the cooperative stockpiling initiative.

12.8. Documentation

12.8.1. What is the minimum amount of information about a patient that your facility/Planning Unit needs from a non-hospital provider? Consider the definition of "essential documentation" determined in Section 5.6.

12.8.2. During a CRSE, how will this information be documented?

12.8.3. Is there any information that the non-hospital provider can collect to help your facility/Planning Unit evaluate, re-assess and revise its CRSRP and Protocols? (See Section 5.4.)

12.8.4. Has the non-hospital provider looked at or made any decisions about documentation during a CRSE in connection with its internal planning efforts? (See Section 11.2.2.4.) If so, how will these decisions impact your facility?

CRSRP Approval and Integration:

13. Once all the elements of the Critical Resource Shortage Response Plan have been compiled or developed, your facility and/or Planning Unit must seek approval of the plan and then integrate it into your facility's and/or Planning Unit's existing policies and procedures.

13.1. The process for gaining approval of the CRSRP will vary according to the number and types of facilities/members in the Planning Unit. CRSRPs that are developed by a Planning Unit with multiple members must be approved by the Planning Unit as well as by the relevant governing structures within the individual facilities/members of the Planning Unit.

13.1.1. Present the CRSRP to the group(s) that addressed the key activities listed in Section 1 for discussion, revision and approval of the item(s) they addressed.

13.1.2. Present the CRSRP to the Medical Staff(s) for approval.

13.1.3. Present the CRSRP to the appropriate governing body(ies) for approval.

13.1.4. Add the CRSRP to the appropriate facility and/or Planning Unit policy manual(s) and incorporate it into the facility's/Planning Unit's EOP.

13.2. Once the CRSRP has been approved, facility and/or Planning Unit EOPs and ICSs should be revised to reflect the incorporation of the Protocols including operational considerations, ethical principles, pre-existing plans, and mechanisms for the creation of ad hoc Protocols and triage Protocols.

13.2.1. Modify the EOP to reflect the command support function responsible for declaring a Critical Resource Shortage (See Section 5.2).

13.2.2. Modify the EOP to reflect the command support function responsible for authorizing implementation of a pre-existing CRSRPs and Protocols contained therein.

13.2.3. Modify the EOP to reflect the command support function responsible for convening the group that will create Protocols to address a Critical Resource Shortage Event for which no Protocol was developed pre-event.

13.2.4. Modify the EOP so that existing emergency information distribution mechanisms can be used to distribute information about the implementation, content and eventual termination of Critical Resource Shortage Response Plan or specific Protocols (See Section 5.7).

13.2.5. If applicable, modify the EOP to recognize the role of designated person(s) who will be making triage decisions (See Section 5.3.1).

13.3. Create a mechanism for reporting noncompliance with Critical Resource Shortage Response Plan or specific Protocols within the ICS.

Educate Staff:

14. Educate medical staff and hospital staff on at least the following issues concerning the Critical Resource Shortage Response Plans and specific Protocols contained therein.

    14.1. The need for a Critical Resource Shortage Response Plan and specific Protocols during an Emergency or Disaster and the importance of complying with the CRSRP and specific Protocols when they are issued.

    14.2. Process for determining and implementing Critical Resource Shortage Response Plan and Protocols prior to Emergency or Disaster.

    14.3. Content of any existing or developed Critical Resource Shortage Response Plan or Protocols.

    14.4. Process for determining and implementing the Critical Resource Shortage Response Plan or its specific Protocols during an Emergency or Disaster.

    14.5. Medical Staff should be told about the list of physicians who will be called upon to develop Protocols in the midst of an Emergency or Disaster.

    14.6. All clinicians should be educated on the mechanism for reporting noncompliant behavior with the Critical Resource Shortage Response Plan or its specific Protocols and the ramifications of noncompliance.

    14.7. All providers should be educated on the role and responsibilities of the designated person(s) who will be making triage decisions (See Section 5.3.1), if applicable.

    14.8. Liability protections available to those who render care during Emergency or Disaster circumstances (both in terms of civil liability and loss of licensure).

Exercise/Drill:

15. Exercise/drill

    15.1. Conduct an initial exercise/drill to test the following:

        15.1.1. Response to a Critical Resource Shortage for which a response plan already exists; and

        15.1.2. Response to a Critical Resource Shortage for which a response plan does not already exist.

    15.2. Modify plans, policies and process as appropriate based on findings of the exercise/drill.

    15.3. Exercise Critical Resource Shortages at least once a year as part of the facility's semi-annual exercise.

EDITORS NOTE:
The text in the following sections addressing the Intra-Event and Post-Event Phases has not been updated yet to reflect changes in terminology, usage and section references that have been made to the Pre-Event section of the CRSPG. Readers should bear this in mind while reviewing the following sections. The Intra-Event and Post-Event sections will be similarly updated once the content of the Pre-Event section is more fully developed.

Intra-Event/Response Phase:

Report Critical Resource Shortage:

16. A resource shortage is reported through the ICS to the person that the facility has designated in Section 4.1.2.

Determine Whether There Is An Existing Critical Resource Shortage Response Plan:

17. The person designated in Section 4.1.2 determines whether there is a pre-existing Critical Resource Shortage Response Plan to address the resource in question.

    17.1. If such a plan does exist:

        17.1.1. Determine whether the amount of remaining resource constitutes a Critical Resource Shortage (e.g. has the facility already exhausted all possible mitigation avenues?).

        17.1.2. If it is determined that there is a Critical Resource Shortage, implement the facility disaster plan (if it is not already activated) and the appropriate Critical Resource Shortage Response Plan, and notify the local EOC (if the facility has not done so already).

        17.1.3. Communicate implementation of the Critical Resource Shortage Response Plan to the medical staff and all personnel through pre-established EOP and ICS mechanisms.

        17.1.4. Communicate implementation of the Critical Resource Shortage Response Plan to EMS providers through the communication plan created in Section 8.2.

        17.1.5. Conduct any appropriate and necessary “just-in-time” training as identified in Section 5.2.13.

        17.1.6. Monitor the level of resource and use of the Critical Resource Shortage Response Plan.

        17.1.7. If your facility agreed to collect and report data to EMS providers to help those providers evaluate the effectiveness of their response plans (see Section 8.3.8), implement mechanisms for such collection and reporting.

17.1.8. Determine whether the Critical Resource Shortage Response Plan needs modification during the event and modify accordingly (See Section 4.1.7).

17.1.8.1. During each operational period, the person(s) designated in Section 4.1.7.1 should review the Critical Resource Shortage situation, the use of the plan and the results, any information provided by EMS as planned for in Section 8.8.3, and make recommendations to the person(s) designated in Section 4.1.7.2.

17.1.8.2. Evaluate whether there are any circumstances that were not contemplated and which require the plan to be modified.

17.1.9. Terminate the Critical Resource Shortage Response Plan when the hospital is no longer experiencing shortage.

17.1.10. Notify the EOC and EMS providers of termination of the Critical Resource Shortage Response Plan.

17.2. If such a plan does not exist, see Section 14.

If a Plan Does Not Exist, Determine Whether A Critical Resource Shortage Exists:

18. Determine whether a Critical Resource Shortage exists.

18.1. Determine whether a specific resource is a "Critical Resource" by asking whether that resource is necessary to sustain human life, prevent permanent injury/disability or stabilize a patient experiencing a medical emergency?

18.1.1. If the answer is yes, then the resource is a Critical Resource.

18.1.2. If the answer is no, then the resource is not a Critical Resource and this Guidance is not applicable.

18.2. Determine whether a Critical Resource Shortage exists by asking whether the Critical Resource was depleted as a result of an Emergency/Disaster to the extent that the remaining resources will not allow the hospital to treat remaining patients in accordance with the traditional standard of care.

18.3. Validate reports of resource shortages.

18.4. Once validated:

18.4.1. Determine whether the shortage can be quickly mitigated by using resources from a sister facility, a neighboring facility (as identified by the RHCC or the EOC) or pursuant to an MOU.

18.4.2. If it cannot be mitigated:

18.4.2.1. Implement facility disaster response plan (if it has not already been implemented).

18.4.2.2. Notify the local EOC that Critical Resource Shortage Response Plans are being implemented (if the EOC has not already been notified).

18.4.2.3. Communicate implementation of the Critical Resource Shortage Response Plan to EMS providers through the communication plan created in Section 8.2

18.4.2.4. Go to Section 15 to develop an ad hoc Critical Resource Shortage plan.

Develop Ad Hoc Critical Resource Shortage Response Plan:

19. Develop the ad hoc Critical Resource Shortage Response Plan. For critical shortages of material resources, refer to Section 15.2. For a critical shortage of physical space, refer to Section 15.3. For a critical personnel shortage, refer to Section 15.4.

19.1. Use the contact list created in Section 7.2 to convene the group which will create a Critical Resource Shortage Response Plan for those resources which have been depleted and for which no plan currently exists. [This will require identification of the specialties that will be affected by the Critical Resource Shortage so that the relevant clinicians can be contacted.]

Critical Shortage of Material Resources:

19.2. In developing the ad hoc Critical Resource response plan for a critical shortage of *material resources* (e.g. equipment, medications), the group should address the following issues.

19.2.1. What services will be impacted by the Critical Resource Shortage?

19.2.2. How will these services change during the Critical Resources shortage?

19.2.3. How will patients be triaged for the Critical Resource in question? What patients will receive the Critical Resource first, second, third, etc? Refer to the ethical principles established in Section 3.

19.2.4. What criteria will determine whether the patient is given the Critical Resource? Is there any literature to guide the development of these criteria? See Appendix 2.

19.2.5. What criteria will dictate that a patient should not receive the Critical Resource? Is there any literature to guide this decision? See Appendix 2.

19.2.5.1. Refer to decisions made in Section 3.6 regarding those criteria that should not be used to justify withholding a Critical Resource from a patient.

19.2.6. If applicable pursuant to your facility's established ethical principles as defined in Section 3.3 and to the Critical Resource in question, under what clinical circumstances will the hospital/provider withdraw the Critical Resource from one patient to give to another patient for whom use of the Critical Resource is more appropriate?

19.2.7. Based on decisions made in Sections 3.4 and 3.5, what specific resources will be provided to those patients who will not receive the Critical Resource?

19.2.8. If in Section 4.1.6.1, the facility decided to use a designated person(s) to make allocation decisions who is chosen based on the specific Critical Resource, who is the appropriate person(s) for this Critical Resource?

19.2.9. Which types of providers (MDs, RNs, LPNs) will use the Critical Resource in question to provide care?

19.2.10. What type of just-in-time training is needed to aid implementation of the specific Critical Resource Shortage Response Plan?

19.2.11. What specific documentation is required to document services rendered pursuant to the Critical Resource Shortage Response Plan based on the definition of "essential documentation" determined in Section 4.1.10? How will this documentation be captured?

Critical Shortage of Physical Space:

19.3. In developing the ad hoc Critical Resource response plan for a critical shortage of *physical space*, the group should address the following issues.

19.3.1. What type of services will be impacted by the critical shortage of physical space?

19.3.2. What alternative locations can be used to provide services to patients during the critical shortage?

19.3.3. When choosing alternative locations, the following should be taken into consideration.

19.3.3.1. What utilities (e.g. medical gases, electricity, water, communication capabilities) are needed? Are those already available in the alternative location? If not, can they quickly be made available in the alternative location?

19.3.3.2. Are there any support services (e.g. OR recovery space) that need to be in close proximity to the service that is being displaced?

19.3.3.3. For what is the alternative location space currently being used? Is there equipment, furniture, or people that will need to be moved from that space in order to use it?

19.3.3.4. Will existing patients be transferred to the alternative location, or will only new patients be treated in the alternative location? If existing patients will be transferred, how will this be accomplished?

19.3.4. Potential locations for alternative space may include administrative space, conference rooms, medical office buildings, or space where non-essential services have been discontinued for the duration of the Emergency or Disaster.

Critical Personnel Shortage:

19.4. In developing the ad hoc Critical Resource response plan for a *critical personnel shortage*, the group should address the following issues.

19.4.1. What services will be impacted by the critical personnel shortage?

19.4.2. How will these services change during the critical personnel shortage?

19.4.3. How will patients be triaged for the services provided by the critical personnel in question? What patients will receive services first, second, third, etc.? Refer to the ethical principles established in Section 3.

19.4.4. What criteria will be used to determine whether the patient is treated by the critical personnel? Is there any literature to guide the development of these criteria? See Appendix 2.

19.4.5. What criteria will be used to determine that a patient should not be treated by the critical personnel? Is there any literature to guide this decision? See Appendix 2.

19.4.5.1. Refer to decisions made in Section 3.6 regarding those criteria that should not be used to justify withholding a Critical Resource from a patient.

19.4.6. For those patients who will not be treated by the critical personnel, will they be treated by another category of staff member in the facility?

19.4.7. Can the number and type of delegable duties be expanded to help address the critical personnel shortage?

19.4.7.1. Do your facility's policies limit licensed personnel's scope of practice more than that required by statute? If so, can the policies be amended during a critical personnel shortage to allow licensed personnel to do more? How, if at all, can licensed providers obtain expanded privileges during a critical personnel shortage to address the problem?

19.4.8. Will a critical personnel shortage affect the ability to produce "essential documentation" as defined in Section 4.1.10? If so, what can be done to ensure that "essential documentation" is completed during the critical personnel shortage?

19.5. Once the group has developed an ad hoc Critical Resource response plan pursuant to Sections 15.2, 15.3 or 15.4, depending on the resource in question, it should be reduced to writing for easy dissemination.

19.6. If the Medical Staff leadership is not represented in the ad hoc group, (s)he should be given a copy of the Critical Resource Shortage Response Plan for information purposes only.

19.7. Present the plan to the appropriate governing body(ies) for approval.

19.8. Inform medical staff and other appropriate personnel of the content of the ad hoc Critical Resource Shortage Response Plan through the mechanism developed in Section 4.1.11.

Implement Critical Resource Shortage Response Plan:

20. Implement the Critical Resource Shortage Response Plan pursuant to the mechanism created in Section 4.1.

Modify Critical Resource Shortage Response Plan:

21. Modify the Critical Resource Shortage Response Plan, if needed, pursuant to Section 4.1.6 and 13.1.6.

Terminate Critical Resource Shortage Response Plan:

22. Terminate the Critical Resource Shortage Response Plan pursuant to the mechanism created in Section 4.1.8 and 4.1.9.

    22.1. Notify the EOC and EMS providers of termination of the Critical Resource Shortage Response Plan.

Post-Event/Recovery Phase:

Psychological Support:

23. Provide psychological support services to employees, staff and physicians (refer to Section 4.1.13).

Evaluate Critical Resource Shortage Response Plans:

24. Evaluate the use and effectiveness of Critical Resource Shortage Response Plans and processes.

    24.1. Implement the post-event communication plan for EMS providers prepared in Section 8.2 to obtain valuable information about the effectiveness of your CRSRPs.

    24.2. Recognize that EMS agencies will probably have had even higher attrition to their staff than your facility as a result of the event. Their ability to continue operations may have been dramatically compromised. Discuss with EMS how this is likely to impact your facility post event.

Modify Critical Resource Shortage Response Plans:

25. Modify plans and processes as appropriate based on actual experiences during the event.

Patient and Family Support:

26. Provide support and recovery services to patients and their families (refer to Section 4.1.13).

27. Consider whether your facility has the capacity to extend these services to EMS and other non-acute care providers to assist them in recovery.

Appendix 1: Examples of Critical Resources

- Ventilators
- Operating Rooms
- Blood
- Oxygen
- Anti-virals
- Burn care kits
- Suture kits
- IVs
- Morphine
- Defibrillators
- Negative Pressure or HEPA-filtered Isolation Spaces
- Antibiotics
- PPE
- Linens
- Imaging Devices
- Beds
- Chest tubes
- Code carts
- Normal saline
- Splints
- Operating Rooms
- Respiratory Therapists

Appendix 2: Critical Resource Shortage Planning Literature

- AHRQ's *Altered Standards of Care in Mass Casualty Events* (April 2005)
- *HHS Pandemic Influenza Plan* (November 2005)
- University of Toronto Joint Centre for Bioethics's *Stand on Guard for Thee: Ethical considerations in preparedness planning for pandemic influenza* (November 2005).
- Institute of Medicine's *Modeling Community Containment for Pandemic Influenza: A Letter Report* (2006)
- Institute of Medicine's *Reusability of Facemasks During an Influenza Pandemic: Facing the Flu* (2006)
- *WHO Rapid Advice Guidelines on Pharmacological Management of Humans Infected with Avian Influenza A (H5N1) Virus* (2006)
- WHO's *Global Consultation on Addressing Ethical Issues in Pandemic Influenza Planning* (October 2006)
- AHRQ's *Providing Mass Medical Care with Scarce Resources: A Community Planning Guide* (November 2006)
- Ontario Health Plan for Influenza Pandemic's *Development of a Triage Protocol for Critical Care During an Influenza Pandemic* (November 2006)
- CDC's *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the U.S. – Early, Targeted, Layered Use of Nonpharmaceutical Interventions* (February 2007)
- New York Department of Health's *Allocation of Ventilators in an Influenza Pandemic: Planning Document* (March 2007)
- North Carolina Institute of Medicine's *Stockpiling Solutions: NC's Ethical Guidelines for an Influenza Pandemic* (April 2007)
- CDC and DHHS' *In a Moment's Notice: Surge Capacity for Terrorist Bombings – Challenges and Proposed Solutions* (April 2007)
- *WHO Interim Protocol: Rapid Operations to Contain the Initial Emergence of Pandemic Influenza* (May 2007)
- California Department of Health Services' *Development of Standards and Guidelines for Healthcare Surge during Emergencies* (mid 2007)
- Security and Prosperity Partnership of North America's *North American Plan for Avian & Pandemic Influenza* (August 2007)

- GAO's *Influenza Pandemic: Opportunities Exist to Address Critical Infrastructure Protection Challenges That Require Federal and Private Sector Coordination* (October 2007)
- CDC's *Proposed Considerations for Antiviral Drug Stockpiling by Employers in Preparation for an Influenza Pandemic* (draft, October 2007)
- CDC's *Proposed Guidance on Antiviral Drug Use Strategies During an Influenza Pandemic* (draft, November 2007)
- OSHA's *Guidance on Preparing Workplaces for an Influenza Pandemic* (2007)
- OSHA's *Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers* (2007)
- ACLU's *Pandemic Preparedness: The Need for a Public Health – Not a Law Enforcement/National Security – Approach* (January 2008)
- CDC's *Influenza Pandemic Operation Plan* (January 2008)
- Task Force for Mass Critical Care Summit Report, published in *Chest* (May 2008)
- Harvard School of Public Health and Massachusetts Department of Public Health Altered Standards of Care Survey (current in process)
- White DB et al. "Who Should Receive Life Support During a Public Health Emergency? Using Ethical Principles to Improve Allocation Decisions." *Ann Intern Med*, 2009; 150: 132-138.
- Utah Hospitals and Health Systems Association's *Utah Pandemic Influenza Hospital and ICU Triage Guidelines* (January 10, 2009).

Appendix 3: Triage Protocol Resources

EMERGENCY DEPARTMENT TRIAGE

- Emergency Severity Index (ESI): Five-level emergency department triage algorithm that divides patients into five groups from 1 - most urgent to 5 - least urgent on the basis of acuity and resource needs. The handbook can be downloaded at http://www.ahrq.gov/research/esi/#download .

MASS CASUALTY FIELD TRIAGE

- JumpSTART Pediatric Multiple Casualty Incident Triage: This is similar to the START triage program, but is specifically designed to triage children. More information can be found on the website at http://www.jumpstarttriage.com/ .
- MASS Triage: "Move, Assess, Sort, Send" This system utilizes US military triage categories with a proven means of handling large numbers of casualties in a mass casualty incident. "Id-me!" (Immediate, Delayed, Minimal, Expectant) is used to sort patients while using the MASS triage model.
- SALT Triage: SALT stands for "Sort – Assess – Life Saving Interventions – Treatment and/or Transport." SALT was developed as a CDC initiative to establish Model Uniform Core Criteria for mass casualty field triage. It was developed as a standardized, all-hazards triage tool that is applicable in both adults and children. More information can be found at http://www.dmphp.org/cgi/reprint/2/Supplement_1/S25.
- START Triage: START stands for "Simple Triage and Rapid Treatment." Using the START program, patients can be triaged in 60 seconds or less. Information on this can be found on their website at http://www.start-triage.com .
- START, then SAVE: This takes the START system to a secondary triage level of SAVE ("Secondary Assessment of Victim Endpoint").

Appendix 4: Ethical Issues Resources

- American Nurses Association. (Mar 2008) "Adapting Standards of Care Under Extreme Conditions: Guidance for Professionals During Disasters, Pandemics, and Other Extreme Emergencies." Available online at: http://www.nursingworld.org/MainMenuCategories/HealthcareandPolicyIssues/DRP/TheLawEthicsofDisasterResponse/AdaptingStandardsofCare.aspx (last visited March 9, 2009).
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- Department of Veterans Affairs. (Aug 2006) "VA Staff Discussion Forums on Ethics Issues in Pandemic Influenza Preparedness: A Guide." Available online at: http://www.ethics.va.gov/activities/pandemic_influenza_preparedness.asp (last visited June 18, 2009).
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- Wisconsin's Pandemic Flu Resource. Ethics Brochure Series. Available online at: http://pandemic.wisconsin.gov/category.asp?linkcatid=2845&linkid=903&locid=106 (last visited June 18, 2009).
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