**Chapter 30  
Special considerations in disaster zones**

**Ryan Carter**

**Altered standards of care**

The prevailing standard of care under usual operating conditions assumes a baseline level of resource availability. In a disaster zone, resources become scarce or insufficient, leading to altered standards of care. In this context, the term *standard of care* has two overlapping but distinct aspects: one legal and one ethical. The legal standard of care is defined by federal statutes, such as the Health Insurance Portability and Accountability Act (HIPAA) and the Emergency Medical Treatment and Active Labor Act (EMTALA), and state law, a breach of which is one required element to prove malpractice. The ethical standard of care is derived from professional codes of conduct, based on core principles of patient autonomy, justice, beneficence, and non-maleficence. The unique circumstances of disaster zones may lead to changes in one or both of these standards.

In April 2005, the Agency for Healthcare Research and Quality published a report containing five principles, covering both of these aspects, to guide planners in prospectively developing and defining altered standards of care [1]. More recently, the National Research Council published a letter report offering guidance and a national framework for key elements which should be included in standards of care protocols for disaster situations. It also acknowledges both the legal and ethical aspects to such protocols and further specify that a “crisis standard of care” should include five key elements ([Table 30.1](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#c30-tbl-0001)) [2].

[**Table 30.1**](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#R_c30-tbl-0001) Key elements of crisis standards of care protocols

| **Element** | **Subsection** |
| --- | --- |
| Ethical considerations | * Fairness * Duty to care * Duty to steward resources * Transparency * Consistency * Proportionality * Accountability |
| Community and provider engagement, education, and communication | * Community stakeholder identification with delineation of roles and involvement with attention to vulnerable populations * Community trust and assurance of fairness and transparency in processes developed * Community cultural values and boundaries * Continuum of community education and trust building * Crisis risk communication strategies and situational awareness * Continuum of resilience building and mental health triage * Palliative care education for stakeholders |
| Legal authority and environment | * Medical and legal standards of care * Scope of practice for health care professionals * Mutual aid agreements to facilitate resource allocation * Federal, state, and local declarations of “emergency,” “disaster,” and “public health emergency” * Special emergency protections (e.g. PREP Act, Section 1135 waivers of sanctions under EMTALA and HIPAA Privacy Rule) * Licensing and credentialing * Medical malpractice |
|  | * Liability risks (civil, criminal, constitutional) * Statutory, regulatory, and common law liability protections |
| Indicators and triggers | * Indicators for assessment and potential management * Situational awareness (local/regional, state, national) * Event specific:   + Illness and injury – incidence and severity   + Disruption of social and community functioning   + Resource availability * Triggers for action * Critical infrastructure disruption * Failure of “contingency” surge capacity (resource-sparing strategies overwhelmed) * Human resource/staffing availability * Material resource availability * Patient care space availability |
| Clinical process and operations | Local/regional and state government processes to include:   * State-level “disaster medical advisory committee” and local “clinical care committees” and “triage teams” * Resource-sparing strategies * Incident management (NIMS/HICS) principles * Intrastate and interstate regional consistencies in the application of crisis standards of care * Coordination of resource management * Specific attention to vulnerable populations and those with medical special needs * Communications strategies |

HICS, hospital incident command system; NIMS, National Incident Management System.

Legal standards of care may only be altered by an executive governmental official. A report from the Institute of Medicine in August 2009 details the process by which that may occur: “This change in the level of care delivered [in a disaster zone] is justified by specific circumstances and is formally declared by a state government, in recognition that crisis operations will be in effect for a sustained period. The formal declaration that crisis standards of care are in operation enables specific legal/regulatory powers and protections for healthcare providers in the necessary tasks of allocating and using scarce medical resources and implementing alternate care facility operations” [3]. In addition to state governors, as alluded to in the IOM report, the president and directors of federal agencies, such as the Secretary of Health and Human Services, may also make declarations of emergency which waive certain specific regulatory provisions. Note that none of these declarations is a blanket authorization to disregard all laws, rules, and regulations.

Resource limitations in a disaster setting may also force changes in ethical standards of care. This occurs in two major ways: ethical standards become more utilitarian and less individualistic, and resource scarcity changes the relative risks of standard treatment options. Utilitarianism defines an ethical action as one that creates “the greatest amount of good for the greatest number” [4]. Prioritizing the health of the larger population over the needs of a single patient often requires a different course of action than heeding traditional professional ethics. As an example, some disaster triage algorithms require withholding treatment from critically injured (black tag) patients in the earliest phases of disaster response. Any disaster triage algorithm may require the provider performing the initial assessment to leave the side of a patient who has just been labeled critically injured, rather than immediately providing medical interventions. The discomfort that providers (and patients) experience when faced with these decisions is, in part, a reflection of the deviation from usual standards of care [5]. However, these decisions are justified under utilitarian reasoning because the outcome for the larger group is best advanced by devoting time and resources to patients with the greatest chance for improvement. To reflect this ethical justification and to clarify the relevant standard of care, the World Medical Association released a statement in 2006 which comments on disaster triage.

It is ethical for a physician not to persist, at all costs, in treating individuals “beyond emergency care,” thereby wasting scarce resources needed elsewhere. The decision not to treat an injured person on account of priorities dictated by the disaster situation cannot be considered a failure to come to the assistance of a person in mortal danger. It is justified when it is intended to save the maximum number of individuals. (from Section 3.4a) [6]

Even in situations that do not change the absolute amount of care provided to individual patients, the relative risks of different treatment options may suggest different actions in a disaster setting. For instance, many health care facilities have policies which require the disposal of unused medication from containers not designated as "multiple dose." This policy assumes there is no drug shortage and that the risk of contamination of the medication exceeds the risk of delayed treatment imposed by the need to restock supplies more frequently. If there is an acute shortage of critical medications or there are significant delays to restock supplies during a disaster, reusing medication vials may become the most ethical course of action. Both of the examples given above reflect how options which may be less ethical under standard conditions may become the preferred treatment decision in a disaster zone with limited resources of time, personnel, and supplies.

Medical directors should be aware of the underlying legal requirements and ethical principles when making treatment guidelines for disaster zones which reflect altered standards of care. The legal standard of care may be altered for a specific period of time defined by the declaration of emergency from the respective government official. The ethical standards of care may change on a minute-to-minute basis depending on local resource constraints. Advance planning, through disaster drills or tabletop exercises, is vital to anticipating the various ways in which altered standards of care may affect the delivery of emergency medical care.

**Allocation of scarce resources**[**\***](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#c30-note-0001)

While the specific definition of the term *disaster* varies depending on the source and context, the common defining characteristic is an event that exceeds local capacity or resources. Thus all disaster responses will require the allocation of limited or scarce resources, by definition. This scarcity, in combination with the demand for acute medical care, can be so severe as to alter prevailing standards of care. As was discussed previously, altering standards of care has significant ethical implications; so too does the series of decisions by medical directors and EMS physicians regarding allocation of existing resources.

Allocation of resources occurs at several levels within a disaster response and the health care system overall. Macroallocation, defined as broad policies to distribute resources across populations, determines disaster response elements such as the distribution of trauma centers and the number of available intensive care unit (ICU) beds. Though these allocation choices greatly affect patient outcomes in a disaster, and though an EMS medical director may choose to influence the public policies that lead to these decisions, this section will focus on scene management. Microallocation is the process by which the needs of an individual patient are prioritized above or below those of another patient [7]. In these decisions, the Hippocratic duty of a medical director or EMS physician to an individual patient may conflict with the utilitarian ethical goal discussed earlier – prioritizing the collective health of the community [8].

The primary principle for the rationing or distribution of scarce resources among individuals is an intervention’s likelihood of medical benefit to the patient. This derives from the ethical principle of beneficence and underpins the utilitarian philosophy, “the greatest good for the greatest number.” Triage algorithms sort patients into categories based on the severity of injury so that priority can be given to those with the most immediate needs *and* the greatest likelihood of medical benefit. Within those broad categories, however, medical directors and EMS physicians may be called upon to prioritize individual patients’ needs (either via direct on-scene management or through guidelines to field triage providers).

Imagine a disaster scenario with multiple burn patients with similar body surface area involvement, all of whom are alert, breathing normally, with intact peripheral pulses. All of these patients would be classified as Delayed/T2 priority under the SALT triage system [9]. Decisions regarding an individual patient’s order of transport and destination facility are not specified by any mass casualty triage algorithm but may have a significant effect on his or her outcome. The primary principle to make this determination should be maximizing medical benefit and lives saved. As one medical director described his experience treating patients of the 2010 earthquake in Haiti, “We use a process by which we make a decision and allocation of health care resources as to how those resources are going to best help not just one individual, but the populace as a whole … So we're more likely to give resources to someone who is likely to live” [10].

When the number of patients with similar predicted medical benefit still exceeds the available resources, another deciding principle must be used. Two options for this secondary principle exist [11]. The first option is a rule which gives all similar patients an equal possibility of accessing the available resources. Examples of this type of rule would be selecting patients alphabetically, by their month of birth, or first come/first served. This option can be justified by the ethical principle of distributive justice and egalitarian philosophy. A similar approach was advocated by some bioethicists in response to public discontent and perceived bias in the allocation of dialysis treatment before it became more widely available [6]. The second option for a secondary principle to decide the allocation of scarce resources (after likelihood of medical benefit is determined) is an assessment of a patient’s quality of life or societal value. This type of rule can be ethically justified through the same utilitarian value system discussed earlier: maximizing the benefit to the community as a whole. In practice, these decisions could be compromised by bias or prejudice on the part of individual providers and the subjective nature of these assessments could lead to variability across providers [6]. Since both types of secondary principle have ethical justifications, different providers may value different criteria in a pluralistic society.

Similar ethical factors have been considered in other settings which required the allocation of scarce health care resources. In 1962, the Seattle Artificial Kidney Center used two sets of criteria to determine eligibility for dialysis, which was at that time a scarce resource. The first was “likelihood of medical benefit” and the second was “social worth.” For this second set of criteria, an attempt was made to weigh the anticipated contributions patients would make to society were their lives saved. The “social worth” evaluations proved very difficult and troubling, since they led to highly discriminatory judgments [7]. Organ transplantation committees also often weigh a mix of objective factors (e.g. immunological compatibility) and subjective ones (e.g. severity of patient need) when selecting recipients. More directly relevant to a disaster setting, the Ethics Subcommittee of the CDC put forth recommendations on the allocation of mechanical ventilators during a potential influenza pandemic [12]. These recommendations discuss multiple allocation criteria, including those based on maximizing net benefits and social worth, which are outlined in [Table 30.2](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#c30-tbl-0002). Ultimately the group “suggest[s] that a multi-principle allocation system may best reflect the diverse moral considerations relevant to these difficult decisions. Most importantly, triage models for allocation of scarce life-saving resources should be evaluated based on the extent to which they result in fair processes and should take into account the values and priorities of the community members who will be impacted.”

[**Table 30.2**](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#R_c30-tbl-0002) What principles should guide ventilator allocation?

| **Basic biomedical ethical principles** | **Specific ethical considerations** |
| --- | --- |
| Respect for persons and their autonomy Beneficence Justice | Maximizing net benefits   * Maximizing the number of lives saved * Maximizing years of life saved * Maximizing adjusted years of life saved   Social worth   * Broad social value * Instrumental value   Life cycle principle Fair chances versus maximization of best outcome |

In summary, medical directors and EMS physicians play a key role in the allocation of scarce resources among various organizations in a health care system and between individual patients in a disaster response. These choices have both operational and ethical implications. At its most basic level, the goal of disaster triage is to prioritize patients for medical treatment with the utilitarian goal of maximizing outcomes for the population as a whole. There is widespread agreement that priority should be given first to those patients who are most likely to recover [12]. Several other secondary decision rules can also be used for resource allocation, each with its own ethical justification ranging from utilitarian to egalitarian. Since subjective value-based assessments may differ between and among providers, patients, and community leaders, it is important to combine them with more objective disaster triage tools and to prospectively identify stakeholders and develop consensus guidelines before resources become scarce.

**Provider credentialing issues**

Due to limited local resources, disaster response assets may be deployed from across regional, state, or even international boundaries. Since nearly all EMS and public safety providers are credentialed by states or local jurisdictions, issues may arise related to scope of practice or legal liability.

Nearly 70% of providers stated that exposure to legal liability was an important factor in their decision to participate in a disaster response [13]. Providers may feel they are at legal risk if an adverse patient outcome occurs in a situation that would fall outside the baseline (non-disaster) standard of care. Some states have adopted statutory language which specifically addresses this issue. For example, South Carolina’s Emergency Health Powers Act states, “Any health care provider appointed by [the South Carolina Department of Health & Environmental Control] … must not be held liable for civil damages as a result of medical care … unless the damages result from … circumstances demonstrating a reckless disregard for the consequences.” Medical directors and disaster planners should collaborate with policymakers and emergency response officials to understand the local legal provisions.

Workforce shortages may arise in either the initial or ongoing stages of a disaster response. Disaster managers may then be presented with the option of allowing other health care workers, trainees, or volunteers to serve functions outside their usual scopes of practice. Examples of potential disaster response strategies which would require providers to operate beyond their typical scopes of practice include:

* allowing community pharmacists to give vaccinations against a pandemic influenza strain
* permitting surgical residents or physician assistants to perform procedures independently at a field triage station
* allowing paramedics to administer medications in a hospital-based emergency department
* asking a nurse to temporarily return to clinical practice after ten years of retirement.

The utility of each of these strategies will depend on multiple factors specific to the individual disaster scenario, and may evolve over time as resource availability changes.

During the active response phases of a disaster, the supervision of provider credentialing is one key role of the planning section within the incident command structure, if one is operational. However, each of these credentialing issues is best addressed prospectively. In their disaster preparedness role, medical directors should encourage each local resource (health care facilities, alternative care sites, emergency response agencies, state health and public safety departments) to develop or review its policy addressing the accommodation of non-credentialed providers during a disaster.

**References**

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**Note**

[\*](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c30.xhtml?favre=brett#R_c30-note-0001)  In the course of reviewing the EMS Core Curriculum, a typographical error was brought to light. The item which reads “allocation of *scene* resources” should instead read “allocation of *scarce* resources.” This error is corrected here.