| **Author, Year** | **Organization, Task Force, or Panel** | **Title of Report or Article** | **Proposed Strategy** |
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| Altevogt, 200913 | Institute of Medicine | Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report | The IOM committee was convened to develop guidance that state and local public health officials and health-sector agencies and institutions can use to establish and implement standards of care to be applied in disaster situations. The committee recommended the development of consistent state crisis standards of care protocols with five key elements: 1) A strong ethical grounding; 2) Integrated and ongoing community and provider engagement, education, and communication; 3) Assurances regarding legal authority and environment; 4) Clear indicators, triggers, and lines of responsibility; and 5) Evidence-based clinical processes and operations. Recommendations on specific implementation strategies included: 1) Using “clinical care committees,” “triage teams,” and a state-level “disaster medical advisory committee” that will evaluate evidence-based, peer-reviewed critical care and other decision tools and recommend and implement decision-making algorithms to be used when specific life-sustaining resources become scarce; 2) Providing palliative care services for all patients; 3) Mobilizing mental health resources to help communities and providers; 4) Developing specific response measures for vulnerable populations and those with medical special needs; and 5) Implementing robust situational awareness capabilities to allow for real-time information sharing. |
| ATS Board of Directors, 1997168 | American Thoracic Society Bioethics Task Force | Fair allocation ofintensive care unit resources | One of the aims of the task force was to provide guidelines defining ethically appropriate and inappropriate criteria for admitting and discharging ICU patients and for the use of scarce resources in the ICU. The Task Force determined that patients meeting thresholds for medical need and benefit should be admitted on a first-come, first-served basis. Similarly, patients who continue to meet criteria for medical need and benefit should continue to receive ICU care. They should not be discharged prematurely with medical care inadequate for their needs in order to make room for a new ICU admission with even greater potential benefit. The Task Force considered it an error to use ICU prognostic systems *alone* to deny ICU admission. Criteria for use and discontinuation of a specific scarce resource were analogous to those for ICU admission and discharge based on thresholds of sufficient medical need and potential benefit and should be offered on a first-come, first-served basis. |
| Bone, 1994167 | Society of Critical Care Medicine Ethics Committee | Consensus statement on the triage of critically ill patients | In general, patients with good prognoses for recovery have priority over patients with poor prognoses. While uncertainty of prognosis is a crucial problem in critical care, providers should utilize predictive instruments with a full understanding of their strengths and limitations. Decisions to be made between patients with equivalent prognoses should be made on a first come, first served basis. Factors that should be considered are: 1) likelihood of a successful outcome; 2) patient's life expectancy due to disease(s); 3) anticipated quality of life of the patient; 4) wishes of the patient and/or surrogate; 5) burdens for those affected, including financial and psychological costs and missed opportunities to treat other patients; 6) health and other needs of the community; and 7) individual and institutional moral and religious values.  |
| Bradt, 2009170 | Australasian College for Emergency Medicine Disaster Medicine Subcommittee | Emergency Department Surge Capacity:Recommendations of the Australasian SurgeStrategy Working Group | Proposed strategies to guide surge management in the Emergency Department (ED). Proposed strategies include dealing with space, staffing, supplies and equipment, and flow both preceding and during surge conditions. For example, recommendations relating to actual surge conditions in each category include: maximizing cohort care and minimizing one-on-one care (space), requesting surgical and critical care liaison points in ED (staffing); having a team member dedicated to restocking supplies in main cohort areas, allowing staff in these areas to maintain clinical roles (supplies and equipment), and considering the use of Focused Assessment with Sonogram in Trauma (FAST) to assist early disposition. A total of 22 specific strategies are proposed to optimize the use of resources prior to a mass casualty event, and 10 specific strategies are proposed for implementation during a mass casualty event. |
| Chapman, 2008172   | Center for Disease Control and Prevention | Post-exposure interventions to prevent infection with HBV, HCV, or HIV, and tetanus in people wounded during bombings and other mass casualty events | Recommendations on the use of immunization and post-exposure prophylaxis for tetanus and occupational and nonoccupational exposures to bloodborne pathogens in mass casualty events. Pathogens considered include Hepatitis B virus, Hepatitis C virus, and HIV. Recommended interventions are tailored to risk category (penetrating injuries vs. mucous membrane exposure vs. superficial exposure). Recommendations do not directly address altered standards of care when vaccines are in short supply. Local authorities are directed to rely on local and state health departments, mutual aid agreements, and commercial vendors, and if necessary work with CDC to make up for shortfalls  |
| Christian, 2011165 | Task Force for Pediatric Emergency Mass Critical Care  | Treatment and Triage recommendations for pediatric emergency mass critical care | The Task Force proposed minimum resource requirements for pediatric emergency mass critical care (PEMCC), which are largely consistent with those developed by the adult task force on emergency mass critical care161-163. The Task Force also developed specific recommendations for non-pediatric hospitals, including a recommendation that adult ICUs should keep adolescent patients without consultation (and patients aged 5-8 years following after consulting with pediatrics). The Task Force was unable to recommend a pediatric prognostic scoring system to triage pediatric victims of MCEs due to the poor performance of existing systems. Moreover, the Task Force declined to endorse exclusion criteria for the use of life support based on patients’ pre-existing conditions despite the fact that other groups have proposed such criteria. The Task Force was also unable to develop recommendations on criteria for withdrawing life support for pediatric patients during MCEs. Finally, the Task Force called for the development of a triage protocol that not only took into account a patient’s likelihood of survival but also the likelihood that a patient would require a prolonged ICU stay. (This latter point is a notable difference from the adult recommendations that did not consider prolonged use of ICU resources). |
| Christian, 2010169 | European Society of Intensive Care Medicine’s Task Force for Intensive Care Unit Triage during an Influenza Epidemic or Mass Disaster | Chapter 7. Critical care triage | Proposed elements of a standard operating procedure for providing critical care services during a mass casualty events, including: implementation of central triage committee integrated within incident management structure, clear lines of authority for all relevant actors, allocation of ICU care by triage officers according to inclusion/exclusion criteria, basis on which to reassess triage categories, medical record documentation criteria, and recommended components of triage officer training. |
| Devereaux, 2008163 | Task Force for Mass Critical Care Working Group | Definitive Care for the Critically Ill During a Disaster: A Framework for Allocation of Scarce Resources in Mass Critical Care | The Task Force presents a framework for resource allocation during MCEs that included inclusion criteria for the receipt of medical or palliative care. The inclusion criteria recommended by the Task Force are based on those developed by Christian et al.164, and recommended exclusion criteria take into account both the Sequential Organ Failure Assessment (SOFA) score and a patient’s chronic illnesses. The Task Force proposed a SOFA score cutoff that correspond to an 80% risk of mortality. The Task Force enumerated the chronic illnesses that should be used as exclusion criteria. The Task Force recommends prioritizing patients in the order of their latest SOFA score and daily SOFA trend. The Task Force describes the recommended responsibilities of the triage officer and the recommended composition of the triage team (a critical care nurse, respiratory therapist, and/or clinical pharmacist).  |
| Lerner, 2011160 | Work group convened by the National Association of EMS Physicians (2006), and subsequently augmented  | Mass Casualty Triage: An Evaluation of the Science and Refinement of a National Guideline | Aside from recommending conventional triage categories, the workgroup proposed criteria for the use of lifesaving interventions, defined as: controlling life-threatening external hemorrhage, opening the airway using basic maneuvers (for an apneic child, consider 2 rescue breaths), performing chest decompression, and providing autoinjector antidotes. The workgroup determined that lifesaving interventions should be performed only if the equipment is readily available, the intervention is within the provider’s scope of practice, the intervention can be performed quickly (ie, in less than 1 min), and the intervention does not require the provider to stay with the patient.The workgroup also made recommendations for individual assessment during field triage, including: 1) refraining from the use of counting or timing vital signs and instead using yes–or-no criteria; 2) avoiding the use of diagnostic equipment for initial assessment; 3) refraining from the use of capillary refill as a sole indicator of peripheral perfusion; and 4) classifying patients who are not breathing after 1 attempt to open their airway (in children, 2 rescue breaths may also be given) as dead and visually identifying them as such. The workgroup also delineated specific criteria for each of 5 triage categories. |
| Lyznicki, 2007174 | American Medical Association and American Public Health Association  | Improving health system preparednessfor terrorism and mass casualty events. Recommendations for action | One of eight priority areas dealt with expanding health system surge capacity. Specific recommendations included: funding IOM to conduct additional studies and to make recommendations; development and dissemination of model plans and strategies; development of inventories of community surge capacity assets; stimulate growth of volunteer emergency response teams; and ensuring that local emergency response plans provide appropriate distribution of patients across facilities.   |
| No Author, 2010171 | Centers for Disease Control and Prevention | In A Moment’sNotice: SurgeCapacityfor TerroristBombings | Proposed strategies to accommodate surge following terrorist activities using templates tailored to disciplines to address known challenges associated with surge capacity. Templates were created for EMS, ED Departments, Surgical Departments, ICU, Radiology, blood banks, hospitalists, administration, pharmaceuticals, and nursing care. |
| No Author, 2008158Lerner, 2008159 | American College of Emergency Physicians, American Trauma Society, State and Territorial Injury Prevention Directors Association  | Mass Casualty Triage: An evaluation of the Data and Development of a Proposed National Guideline | Proposed triage strategy known as SALT (Sort-Assess-Lifesaving Interventions-Treatment and/or transport), to serve as national all-hazards mass casualty initial triage standard for all patients. SALT begins with a global sorting of patients for prioritization of treatment based on ability to walk, follow commands or move. The next stage, assess, involves limited life-saving interventions such as controlling hemorrhages or opening airways. Patients are then prioritized for treatment and/or transport based on an assignment to one of 5 categories: immediate, expectant, delayed, minimal and dead. The prioritization process is dynamic and condition-specific. |
| Rubinson, 2008162 | Task Force for Mass Critical Care Working Group | Definitive Care for the Critically Ill During a Disaster: A Framework for Optimizing Critical Care Surge Capacity | The Task Force proposed a bundle of 7 services that comprise emergency mass critical care (EMCC). Each of these services does not require expensive equipment and can be implemented without consuming extensive staff or hospital resources. The Task Force also developed a framework for optimizing surge capacity that includes various activites along a continuum from minimal patient need to overwhelming patient need and consists of 5 major types of activities: substitution, adaptation, conservation, reuse, and reallocation. The Task Force provided examples of each. The Task Force also adopted a multi-tiered critical care surge capacity framework that delineated specific triggers for escalation to higher tiers. |
| Rubinson, 2008161 | Task Force for Mass Critical Care Working Group | Definitive Care for the Critically Ill During a Disaster: Medical Resources for Surge Capacity | The Task Force developed recommendations on the use of equipment and space for creating surge capacity during MCEs. Specifically, the Task Force recommends the use of one mechanical ventilator per patient (rather than the use of a multiple-limb ventilator circuit). It also produced a list of ideal characteristics for stockpiled surge mechanical ventilators, recommended equipment for surge PPV, and recommended non-respiratory medical equipment. The Task Force also recommended (in order) the following treatment spaces after ICUs, post-anesthesia care units, and emergency departments have reached capacity: 1) intermediate care units, step-down units, and large procedure suites; 2) telemetry units; and 3) hospital wards. The Task Force strongly discouraged the use of nonmedical facilities to serve as alternate care sites. Finally, the Task Force endorsed a collaborative team model for staffing during critical care surge.  |
| Rubinson, 2005166 | Working group on Emergency Mass Critical Care | Augmentation of hospital critical care capacity after bioterrorist attacks or epidemics | The Work group recommends that triage decisions regarding the provision of critical care should be guided by the principle of seeking to help the greatest number of people survive the crisis. This would include patients already receiving ICU care who are not casualties of an attack. |
| Taylor, 2010173 | European Society of Intensive Care Medicine’s Task Force for Intensive Care Unit Triage | Chapter 6. Protection of patients and staffduring a pandemic | Recommendations and standard operating procedures to protect patients and staff during a pandemic or mass casualty event. Key recommendations include (1) preparing infection control and occupational health policies for clinical risks relating to potential disease transmission; (2) decreasing clinical risks and provide adequate facilities through advanced planning to maximize capacity by increasing essential equipment, drugs, supplies and encouraging staff availability; (3) creating robust systems to maintain staff confidence and safety by minimizing non-clinical risks and maintaining or escalating essential services; (4) preparing formal reassurance plans for legal protection; (5) providing assistance to staff working outside their normal domains. |