



TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

Crisis Standards of Care
Topic Collection
Updated 2/5/2016

Topic Collection: Crisis Standards of Care

The provision of medical care under catastrophic disaster conditions requires considerable pre-event planning, along with the recognition that the delivery of healthcare services will likely change due to the potential scarcity of required resources. Beginning in 2009, ASPR has focused significant attention on “crisis standards of care,” spearheaded by the issuance of three reports by the Institute of Medicine of the National Academies. Work performed under this topic area provides a roadmap for use during catastrophic events. Coordination of emergency response system planning is critical to ensuring the likelihood of successful health and medical outcomes under chaotic conditions, thus limiting patient morbidity and mortality. The standards of care proposed under the delivery of such conditions must represent a “reasonable” approach to healthcare service delivery, albeit under some very unique and challenging conditions that simply do not exist under conventional disaster conditions. With a framework rooted in fundamental public health tenets, decisions regarding the delivery of care must be made focused on population, not necessarily individual, outcomes. ASPR TRACIE updated this Topic Collection in February 2016.

Each resource in this Topic Collection is placed into one or more of the following categories (click on the category name to be taken directly to that set of resources). Resources marked with an asterisk (*) appear in more than one category.

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Must Reads

Hanfling, D., Altevogt, B.M., Viswanathan, K., and Gostin, L.O. (eds.). (2012). [Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response](#). Institute of Medicine, Washington, DC: National Academies Press.

This report was designed to help authorities operationalize the concepts first developed in the 2009 Institute of Medicine Report titled, “Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report.” It provides practical templates and toolkits for the emergency response disciplines and emphasizes the importance of a systems framework. This report also includes a “public engagement” template

specifically to guide communities in hosting meetings and encourages the inclusion of citizens in their policy process.

Hick, J.L., Hanfling, D., and Cantrill, S.V. (2012). [Allocating Scarce Resources in Disasters: Emergency Department Principles](#). *Annals of Emergency Medicine*. 59(3): 177-187.

The authors summarize key elements contained in the Institute of Medicine work on crisis standards of care. Written for the emergency medicine community, this paper is intended to be a useful adjunct to support discussions related to the planning for large scale disaster events.

Minnesota Department of Health, Office of Emergency Preparedness, Minnesota Healthcare System Preparedness Program. (2013). [Patient Care Strategies for Scarce Resource Situations](#).

This card set can help facilitate an orderly approach to resource shortfalls at a healthcare facility. It is a decision support tool to be used by key personnel, along with incident management, who are familiar with ethical frameworks and processes that underlie these decisions.

Articles

Challen, K., Bentley, A., Bright, J., and Walter, D. (2007). [Clinical Review: Mass Casualty Triage – Pandemic Influenza and Critical Care](#). *Critical Care*. 11(2): 212.

This article describes how contingency planning should be multi-faceted and involve a robust health command structure. This structure should provide the facility with the capability to expand critical care provision in terms of space, equipment, staff, and cohorting of affected patients in the early stages. The authors note that despite the expansion of critical care in the event of a pandemic, demand for services will likely exceed supply and a process for triage will need to be developed.

Grimaldi, M.E. (2007). [Ethical Decisions in Times of Disaster: Choices Healthcare Workers Must Make](#). *Journal of Trauma Nursing*. 14(3): 163-4.

The code of ethics for most healthcare professions is somewhat ambiguous when addressing the responsibilities of healthcare providers during public health emergencies. The American Medical Association has created new, stronger language addressing physicians' duty to care for patients since the events of September 11, 2001, but other professions have not followed suit. Until such time, the author writes that healthcare providers will continue to be faced with making challenging ethical decisions with little direction.

Hick, J.L., Barbera, J.A., and Kelen, G.D. (2009). [Refining Surge Capacity: Conventional, Contingency, and Crisis Capacity](#). (Abstract only.) *Disaster Medicine and Public Health Preparedness*. 3(S1): S59-S67.

This article provides an important conceptual framework upon which much of the Institute of Medicine crisis standards of care discussions were based. It highlights how the surge continuum may expand to result in crisis surge response, in which re-use and re-allocation principles may have to be invoked.

Hick, J.L., Hanfling, D., and Cantrill, S.V. (2012). [Allocating Scarce Resources in Disasters: Emergency Department Principles](#). *Annals of Emergency Medicine*. 59(3): 177-187.

The authors summarize key elements contained in the Institute of Medicine work on crisis standards of care. Written for the emergency medicine community, this paper is intended to be a useful adjunct to support discussions related to the planning for large scale disaster events.

Merin, O., Ash, N., Levy, G., et al. (2010). [The Israeli Field Hospital in Haiti — Ethical Dilemmas in Early Disaster Response](#). *The New England Journal of Medicine*. 362:e38.

The authors of this article summarize their experience with establishing a field hospital in Haiti after the 2010 earthquake, including managing limited resources which continuously presented them with complex ethical issues. The Israeli government dispatched 230 military task force personnel to support this field hospital. Their mission was to extend lifesaving medical help to as many people as possible.

Guidelines and Strategies

Altevogt, B.M., Stroud, C., Hanson, S.L., Hanfling, D., and Gostin, L.O. (eds.). (2009). [Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report](#). Institute of Medicine, Washington, DC: The National Academies Press.

In 2009, the United States (U.S) Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR) asked the Institute of Medicine to convene a committee to develop guidance for crisis standards of care in disaster situations. This report focuses on the key principles and guidance that can assist public health officials, health care facilities, and others in the development of systematic policies and protocols that can be applied in a disaster situation with scarce resources. The report includes two scenarios: (1) a sudden-onset, no-notice earthquake, and (2) a slow-onset, pervasive pandemic.

Hanfling, D., Altevogt, B.M., Viswanathan, K., and Gostin, L.O. (eds.). (2012). [Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response](#). Institute of Medicine, Washington, DC: National Academies Press.

This report was designed to help authorities operationalize the concepts first developed in the 2009 Institute of Medicine Report titled, “Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report.” It provides practical templates and toolkits for the emergency response disciplines and emphasizes the importance of a systems framework. This report also includes a “public engagement” template specifically to guide communities in hosting meetings and encourages the inclusion of citizens in their policy process.

Health Systems Research Inc. (2005). [Altered Standards of Care in Mass Casualty Events](#). Agency for Healthcare Research and Quality (archived).

This white paper summarizes the deliberations and recommendations of a group of experts during a meeting conducted in August 2004 regarding crisis standards of care. It provides: 1) the experts’ assessment of the need to develop and plan for the possible implementation of crisis standards of care, 2) a framework for the development of strategies in implementing crisis standards of care, 3) related issues that must be addressed in order for these strategies to be effective, and 4) the experts’ recommendations concerning the action steps to be taken to help states, communities, healthcare systems, and providers be prepared to respond to mass casualty events and save as many lives as possible.

Hick, J.L., Rubinson, L., O’Laughlin, D.T., and Farmer, J.C. (2007). [Clinical Review: Allocating Ventilators during Large-Scale Disasters—Problems, Planning, and Process](#). *Critical Care*. 11(3): 217.

The authors discuss the complex issues of finding acceptable alternatives to using durable medical devices such as mechanical ventilators during disaster and share decision-making support tools.

Phillips, S.J., and Knebel, A. (eds.). (2007). [Mass Medical Care with Scarce Resources: A Community Planning Guide](#). The Office of the Assistant Secretary for Preparedness and Response.

This guide provides planners (e.g., community, facility, state, and Federal) with valuable information that can help them plan for and respond to a mass casualty event. The authors share approaches and strategies to enable the audience to provide the most appropriate standards of care possible under the circumstances of a mass casualty event.

Powell, T., Christ, K.C., and Birkhead, G.S. (2008). [Allocation of Ventilators in a Public Health Disaster](#). *Disaster Medicine and Public Health Preparedness*. 2(01), 20-26.

This paper details one of the first efforts intended to identify a statewide approach to allocating mechanical ventilators in the setting of a large-scale respiratory emergency event. The authors highlight the ethical principles that govern such decision making, with

an emphasis on the “duty to plan,” the “duty to care,” and the “duty to steward resources.”

The Center for Health Policy, Columbia University School of Nursing. (2008). [Adapting Standards of Care under Extreme Conditions: Guidance for Professionals during Disasters, Pandemics, and Other Extreme Emergencies](#). American Nurses Association.

This policy paper is intended for professionals in a care giver or service provider role. It includes guidance on ethical principles in emergency care, meeting usual care expectations, and recommendations for emergency event care.

Thompson, A. (n.d.). [Stand on Guard for Thee](#). University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group. (Accessed 4/16/2015.)

In this presentation, the author shares a 15-point ethical guide for pandemic planning based in part on experiences with and study of the 2003 severe acute respiratory syndrome outbreak.

White, D.B., Katz, M.H., Luce, J.M., and Lo, B. (2009). [Who Should Receive Life Support During a Public Health Emergency? Using Ethical Principles to Improve Allocation Decisions](#). *Annals of Internal Medicine*. 150:132-138.

The authors explore key ethical principles that may be invoked in the context of having to make scarce resource allocation decisions. They highlight strategies related to saving the most lives, maximizing the number of life years saved, and prioritizing patients who have had the least chance to live through life's stages. They emphasize the importance of applying such principles to all patients, not just to those at the extreme ages of the life cycle (very young, elderly) or those with functional impairments or chronic conditions.

Lessons Learned

Ytzhak, A., Sagi, R., Bader, T., et al. (2012). [Pediatric Ventilation in a Disaster: Clinical and Ethical Decision Making](#). *Critical Care Medicine*. 40(2).

After the 2010 earthquake that struck Haiti, medical staff from the Israeli Defense Forces Medical Corps field hospital responded and was the only facility that had the capability to ventilate children and neonates during the first week after the disaster. The authors provide an overview of five case studies and the decision-making processes they went through using a tool developed for ventilator allocation during an influenza pandemic.

Pandemic-Specific Planning

Christian, M.D., Hawryluck, L., Wax, R.S., et al. (2006). [Development of a Triage Protocol for Critical Care during an Influenza Pandemic](#). *CMAJ*. 175(11): 1377-81.

The authors describe how they applied a collaborative process using best evidence, expert panels, stakeholder consultations, and ethical principles to develop a triage protocol for prioritizing access to critical care resources, including mechanical ventilation, during an influenza pandemic.

Emanuel, E.J., and Wertheimer, A. (2006). [Public Health. Who Should Get Influenza Vaccine When Not All Can?](#) *Science*. 312(5775): 854-5.

This paper discusses the influenza vaccine prioritization scheme developed by the National Vaccine Advisory Committee and the Advisory Committee on Immunization Policy.

Fletcher, K., Amarakoon, S., Haskell, J., Penn, P., Wilmoth, M., Matherly, D., and Langdon, N. (2014). [A Guide for Public Transportation Pandemic Planning and Response](#). National Cooperative Highway Research Program Report 769. Washington, DC: Transportation Research Board.

This report was developed to provide support to transportation organizations as they prepare for pandemics and other infectious disease outbreaks. It is primarily intended for small urban and rural transportation organizations; however, this guide can be used by all types and sizes of transportation agencies and organizations at varying stages of pandemic preparedness.

Public Engagement Pilot Project on Pandemic Influenza (PEPPPI). (2005). [Citizen Voices on Pandemic Flu Choices](#).

This report describes the convening of a representative group of stakeholders and citizens-at-large as a result of the Public Engagement Pilot Project on Pandemic Influenza. Decisions that were made and recommendations that were developed are also discussed.

The Keystone Center. (2005). [Citizen Voices on Pandemic Flu Choices: A Report of the Public Engagement Pilot Project on Pandemic Influenza](#).

This report describes the Public Engagement Pilot Project on Pandemic Influenza, the objectives of which were twofold: 1) to discuss and rank goals for a pandemic influenza vaccination program and 2) to pilot test a model for engaging citizens in vaccine-related policy decisions.

Upshur, R.E.G., Faith, K., Gibson, J.L., et al. (2005). [Stand on Guard for Thee: Ethical Considerations in Preparedness Planning for Pandemic Influenza](#). University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group.

This guide focuses on pandemic influenza and related ethical issues such as providing care, quarantine, priority setting, and governance. The authors provide guidelines for

developing an ethical pandemic plan and decision-making while in the midst of an outbreak.

Vawter, D.E., Garrett, J.E., Gervais, K.G., Prehn, A.W., and DeBruin, D.A. (2011). [Attending to Social Vulnerability When Rationing Pandemic Resources](#). (Abstract only). *The Journal of Clinical Ethics*. 22(1):42-53.

This article describes the planning processes for rationing resources during an influenza pandemic. Specifically, it discusses the Minnesota Pandemic Ethics Project, a public engagement project focused on rationing scarce health resources during a severe influenza pandemic.

Plans, Tools, and Templates

Arizona Department of Health Services. (2015). [Arizona Crisis Standards of Care Plan: A Comprehensive and Compassionate Response](#).

This comprehensive plan is the result of years of collaboration between the state public health, healthcare, legal, ethical, and emergency management disciplines and can serve as a model for others. Sections include: Statewide Concept of Operations; Clinical Concept of Operations; Organization and Assignment of Responsibilities; Direction, Control, and Coordination; Information Collection, Analysis, and Dissemination; Communications; Administration, Finance, and Logistics; and Legal Considerations.

District of Columbia Emergency Healthcare Coalition. (2013). [Modified Delivery of Critical Care Services in Scarce Resource Situations](#).

This guidance document is in response to the directive for Healthcare Preparedness Capabilities: National Guidance for Healthcare System Preparedness (January 2012), Capability 10 (Medical Surge), Function 4 (Develop Crisis Standards of Care Guidance). The resource is intended to promote a consistent approach to emergency preparedness and response by the District's healthcare organizations when the resources necessary to providing critical care are scarce.

Georgia Hospital Association Research and Education Foundation, Inc. (GHAREF) et al. (2010). [Regional Planning Guide for Maintaining Essential Health Services in a Scarce Resource Environment](#).

This document uses a pandemic influenza scenario to describe a model for identifying essential health services and planning for how to ensure their continuation in a scarce resource environment. Coordination among Emergency Support Function (ESF) 8 partners, roles and responsibilities of partners, and the need for consistent approaches to addressing ethical, legal, and risk communication issues are discussed.

Gravelly, S. and Whaley, E. (2008). [Critical Resource Shortages: A Planning Guide](#). Virginia Department of Health.

This document provides guidance on managing shortages of critical resources during the preparedness, response, and recovery phases of a disaster. Pandemic influenza is used as the planning scenario.

Minnesota Department of Health, Office of Emergency Preparedness, Minnesota Healthcare System Preparedness Program. (2013). [Patient Care Strategies for Scarce Resource Situations](#).

This card set can help facilitate an orderly approach to resource shortfalls at a healthcare facility. It is a decision support tool to be used by key personnel, along with incident management, who are familiar with ethical frameworks and processes that underlie these decisions.

U.S. Department of Health and Human Services and U.S. Department of Homeland Security. (n.d.). [Guidance on Allocating and Targeting Pandemic Influenza Vaccine](#). (Accessed 12/3/2015.)

This goal of this document is to provide states and local communities with guidance pertaining to the allocation of influenza vaccines as a result of a pandemic.

Studies and Reports

Hick, J.L., and O’Laughlin, D.T. (2006). [Concept of Operations for Triage of Mechanical Ventilation in an Epidemic](#). Academic Emergency Medicine. 13(2): 223-9.

This report provides a sample concept of operations for triage of mechanical ventilation in epidemic situations and discusses some of the ethical principles and pitfalls of such systems.

Kanter, R.K. and Moran, J.R. (2007). [Pediatric Hospital and Intensive Care Unit Capacity in Regional Disasters: Expanding Capacity by Altering Standards of Care](#). Pediatrics. 119(1):94-100. (Abstract only.)

The authors used a simulation to determine how altered standards of care during a large-scale emergency or disaster could expand pediatric intensive care unit (PICU) beds and non-ICU beds. Modeling showed that altered standards could increase capacity, but that ICU beds would still be insufficient during large disasters.

Timbie, J.W., Ringel, J.S., Fox, D.S., et al. (2013). [Systemic Review of Strategies to Manage and Allocate Scarce Resources During Mass Casualty Events](#). (Abstract only.) Annals of Emergency Medicine. 61 (6): 677-689.

The authors performed a comprehensive literature review on evidence-based practices related to scarce resource allocation. They provide a methodologically rigorous review of existing strategies, and highlight the paucity of two evidence-based approaches: 1) the development of “points of distribution” can be used to efficiently distribute medical countermeasures in the aftermath of a large scale biological event, and 2) commonly used field triage systems do not perform consistently during actual mass casualty events.

Toolkits

Hanfling, D., Hick, J., and Stroud C. (2013). [Crisis Standards of Care: A Toolkit for Indicators and Triggers](#). Institute of Medicine, Washington, DC: National Academies Press.

This toolkit contains key concepts, guidance, and practical resources to help individuals across the emergency response system develop plans for crisis standards of care and respond to a catastrophic disaster. It includes sample indicators, triggers, and sample tactics for use in the transition from conventional surge to contingency surge to crisis surge, and a return from crisis response to conventional response.

Webinars

Iserson, K. (2007). [Part 1: Resource Allocation – The Ethical Justification](#). The University of Arizona, Arizona Bioethics Program.

In this webinar, the speaker discusses when healthcare resources should be rationed, why healthcare resources should be rationed, and the ethical justification for rationing resources.

Iserson, K. (2007). [Part 2: How to Ration Healthcare Resources](#). The University of Arizona, Arizona Bioethics Program.

Webinar participants will learn more about: 1) what triggers indicate that healthcare resource rationing is necessary, 2) what actions can be taken to ration healthcare resources, 3) what general treatment priorities should be implemented, and 4) why stakeholder validation is vital.

Iserson, K. (2007). [Part 3 \(A\). Who Allocates Scarce Healthcare Resources?](#) The University of Arizona, Arizona Bioethics Program.

This webinar covers four topics about resource allocation: 1) who allocates scarce healthcare resources during a crisis, 2) how crisis triage officers are selected and trained, 3) how crisis triage officers should function, and 4) how the use of risk communication techniques can help maintain the trust of healthcare workers and the public.

Iserson, K. (2007). [Part 3 \(B\). Who Allocates Scarce Healthcare Resources?](#) The University of Arizona, Arizona Bioethics Program.

More information on the use of risk communication during a crisis in which scarce resources need to be rationed is provided in this webinar.

Agencies and Organizations

Note: The agencies and organizations listed in this section have a page, program, or specific research dedicated to this topic area.

California Hospital Association, Emergency Preparedness. [Crisis Care.](#)

Institute of Medicine of the National Academies. [Crisis Standards of Care.](#)

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. [Communities of Interest for Crisis Standards of Care and Allocation of Scarce Resources.](#)

This ASPR TRACIE Topic Collection was comprehensively reviewed in June 2015 by the following subject matter experts (listed in alphabetical order): **Dan Hanfling**, MD (Panel Chair, Editor) Contributing Scholar, UPMC Center for Health Security, Member, InterAgency Board, Attending Physician, BestPractices, Inc. (a division of EmCare), and Clinical Professor of Emergency Medicine, George Washington University; and **John Hick**, MD, HHS ASPR and Hennepin County Medical Center.

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