



# TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS  
INFORMATION GATEWAY

Disaster Ethics  
Topic Collection  
8/31/15

## Topic Collection: Disaster Ethics

Healthcare providers have an obligation to deliver care and services consistent with professional ethics standards. In the event of a catastrophic natural or human-caused disaster, these obligations can become complicated under crisis standards of care when difficult decisions may need to be made about allocation of resources. In medical disaster planning, consistency, fairness, effectiveness, and transparency are best achieved by engagement with stakeholder communities so that planning is informed by the values, norms, and moral traditions of that community. The resources in this Topic Collection include lessons learned from recent disasters, educational and training materials, and plans, tools, and templates that can help healthcare professionals, planners, and communities identify, plan for, and address ethical challenges they may face before, during, and after a disaster. *(Please note: ASPR TRACIE also developed a comprehensive Topic Collection on [Crisis Standards of Care](#), which focuses on systems and processes including clinical aspects of crisis care.)*

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

Beaton, R., Reyes, G., and Call, J.A. (2007). [Disaster Research Ethics: Gaps, Challenges, and Team Sustainability](#). (Requires free registration.) Northwest Center for Public Health Practice.

Speakers in this two-part webinar provide tips and explain ethical considerations associated with conducting disaster mental health research with children and families.

Connerton, P. (2013). [Ethical Guidelines for the Development of Emergency Plans](#). American Health Care Association.

This guidance can help disaster planners incorporate ethical considerations into their documents, exercises, and other preparedness activities.

Gostin, L., and Powers, M. (2006). [What Does Social Justice Require for the Public's Health? Public Health Ethics and Policy Imperatives](#). Health Affairs. 25(4): 1053–1060.

The authors examine the concept of social justice and how it can be applied to public health emergencies.

Hick, J., Hanfling, D., and Cantrill, S. (2011). [Allocating Scarce Resources in Disasters: Emergency Department Principles](#). Annals of Emergency Medicine, Vol 20(10): 1-11.

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.

Kraus, C., Levy, F., and Kelen, G. (2007). [Lifeboat Ethics: Considerations in the Discharge of Inpatients for the Creation of Hospital Surge Capacity](#). (First page only.) Disaster Medicine and Public Health Preparedness. 1(1): 51-56.

The authors discuss the ethics of triage with attention to the less common situation of triaging patients for discharge from the hospital to make room for incoming patients.

Sharpe, V., Berkowitz, K., Cecire, R., et al. (2010). [Meeting the Challenge of Pandemic Influenza: Ethical Guidance for Leaders and Health Care Professionals in the Veterans Health Administration](#). U.S. Department of Veterans Affairs.

This guidance document is divided into five sections on ethical preparedness and response in a healthcare system: 1) an overview of ethical challenges; 2) workforce capacity and responsibility; 3) resource allocation; 4) hospice and palliative care; and 5) limiting personal liberty to preserve public health. The document also includes a checklist for implementing the plan guidance.

Spectrum Health. (2010). [Ethics Committee](#). State of Michigan's Caring for the Community Project.

This document is part of a set of guidelines that can help healthcare providers identify and provide essential healthcare services, while also caring for large numbers of hospitalized and home-bound patients during an influenza pandemic. In this document, the authors share basic ethical guidelines, explain the effect service limitations can have

on a community, and share strategies for creating proposed solutions for community members to review and agree on before an incident occurs.

University of Minnesota, School of Public Health, Center for Public Health Preparedness. (2010). [Introduction to Ethical Frameworks for Public Health Emergencies and Disasters](#). (Requires free registration.)

This training module can help prepare public health professionals incorporate ethical frameworks into their planning and response plans during public health emergencies and disasters.

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.

## Duty to Care

American Nurses Association. (2010). [Who Will Be There? Ethics, the Law, and a Nurse's Duty to Respond in a Disaster](#).

This factsheet highlights the concerns nurses may have related to ethical and legal issues during a public health emergency or other disaster. Links to other resources are also provided.

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

The author explains the ambiguity surrounding the code of ethics for many healthcare professions during public health emergencies and provides a review of related literature and codes, but notes more work must be done in this area.

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

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.

\*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.”

## Education and Training

\*Beaton, R., Reyes, G., and Call, J.A. (2007). [Disaster Research Ethics: Gaps, Challenges, and Team Sustainability](#). (Requires free registration.) Northwest Center for Public Health Practice.

Speakers in this two-part webinar provide tips and explain ethical considerations associated with conducting disaster mental health research with children and families.

Center for Infectious Diseases and Emergency Readiness. (2011). [Ethics and Public Health in an Age of Catastrophe: Public Health 253E - Spring 2010](#). (Requires access to YouTube.) University of California, Berkeley, School of Public Health.

This set of 14 lectures, delivered by Harvey Kayman and other instructors, covers a variety of issues related to ethics and disasters.

\*Hamilton, L. (2007). [Ethical Issues in Disaster Response](#). (Requires free registration.) University of North Carolina, Gillings School of Global Public Health, Center for Public Health Preparedness.

The speakers in this webinar provide an overview of ethical issues and highlight those that may be associated with responder behavioral health before, during, and after an assignment.

Jewell, S. (2008). [Ethics and Public Health in the Age of Terrorism](#). (Requires free registration.) University at Albany, State University of New York, School of Public Health and Health Professions, Center for Public Health Preparedness.

This course is comprised of ten modules which illustrate the role of public health in addressing the ethical issues that may arise after a terrorist attack.

Kayman, H. (2008). [Ethical Decision Making in Times of Public Health Catastrophe](#). (Requires free registration.) University of Washington, Northwest Center for Public Health Practice.

The speaker provides an overview of ethical decision-making during public health emergencies and teaches participants how to make decisions with local partners during a disaster. Links to the slides and the recording are provided.

Olson, D. (2012). [Applying Ethical Frameworks during Severe Pandemic Influenza](#). University of Minnesota, School of Public Health, U-SEEE Preparedness and Emergency Response Learning Center.

This 45-minute module can help participants prepare for ethical issues that may arise during a pandemic influenza. The speaker discusses ethics and community preparedness, medical countermeasure dispensing, resource allocation, and other related topics.

Training and Education Collaborative System - Preparedness and Emergency Response Learning Center. (2015). [Ethics in Public Health Emergencies](#). (Requires free registration.)

This course highlights the ethical challenges that accompany public health disasters (e.g., resource allocation, evacuation, restriction of individual rights).

University of Minnesota, School of Public Health, Center for Public Health Preparedness. (2010). [Introduction to Ethical Frameworks for Public Health Emergencies and Disasters](#). (Requires free registration.)

This training module can help prepare public health professionals incorporate ethical frameworks into their planning and response plans during public health emergencies and disasters.

### **General Guidance on Disaster Ethics**

American Nurses Association. (2008). [Adapting Standards of Care under Extreme Conditions: Guidance for Professionals during Disasters, Pandemics, and Other Extreme Emergencies](#).

This report illustrates the findings from an expert panel held to: 1) identify ethics-specific policy questions that need to be addressed, and 2) develop strategies that can help healthcare providers make important decisions during a disaster.

Childress, J.F., Faden, R.R., Gaare, R.D., et al. (2002), [Public Health Ethics: Mapping the Terrain](#). (First page only.) *The Journal of Law, Medicine & Ethics*, 30: 170–178.

The authors attempt to “map” public health ethics by defining the field and highlighting ethics-related features.

\*Gostin, L., and Powers, M. (2006). [What Does Social Justice Require for the Public’s Health? Public Health Ethics and Policy Imperatives](#). *Health Affairs*. 25(4): 1053–1060.

The authors examine the concept of social justice and how it can be applied to public health emergencies.

\*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.

Jennings, B., and Arras, J. (2008). [Ethical Guidance for Public Health Emergency Preparedness and Response: Highlighting Ethics and Values in a Vital Public Health Service](#). Centers for Disease Control and Prevention.

This report provides an ethical framework for healthcare providers to use when planning for or responding to a public health emergency or other disaster.

Presidential Commission for the Study of Bioethical Issues. (2015). [Presidential Commission for the Study of Bioethical Issues: Meeting Twenty: Feb. 5-6, 2015, Washington, D.C.](#) U.S. Department of Health and Human Services.

This website includes links to the agenda, webcast, transcript, and more from the 2015 Commission meeting, which focused on research during disaster and issues related to Ebola.

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 Nurse’s 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.

Upshur, R.E.G. (2002). [Principles for the Justification of Public Health Intervention](#). Canadian Journal of Public Health. 93(2):101-3.

The author describes a set of four principles (based on a literature review) that can be used in the analysis of ethical issues in public health practice and may be helpful for analyzing potential emergency interventions.

Verweij, M. (2008). [Addressing Ethical Issues in Pandemic Influenza Planning: Discussion Papers](#). World Health Organization.

The author presents the case for prioritization to maximize health benefits and save the highest number of lives, but notes that "basic moral principles allow consideration of certain other priorities."

World Medical Association, Inc. (2015). [WMA Statement on Medical Ethics in the Event of Disasters](#).

This World Medical Association statement includes a definition of "disaster" (with a focus on the medical aspects). The rest of the statement covers the following ethical principles and procedures: triage, relations with the patients, aftermath of disaster, media and other third parties, duties of pharmaceutical personnel, training, and responsibility.

Wynia, M.K. (2005). [Oversimplifications II: Public Health Ignores Individual Rights](#). (First page only.) American Journal of Bioethics. 5(5):6-8.

The author discusses the dynamic between ethical decision-making that is focused on the individual patient versus one focused on the health of the population, emphasizing that these two do not have to be in conflict.

Wynia, M.K., Powell, T., Gable, L., et al. (2011). [Ethics in Public Health Emergencies: Developing an Arizona Code of Public Health Emergency Ethics](#). Arizona State University.

The resources available on this website include presentations from a 2011 focus group meeting on the State of Arizona's code of public health emergency ethics. Information can be customized by public health emergency planners from other states.

### **Lessons Learned: Ebola**

Beca, J., Ndagije, H., Calain, P., et al. (2014). [Ethical Considerations for Use of Unregistered Interventions for Ebola Viral Disease: Report of an Advisory Panel to WHO \(World Health Organization\)](#). World Health Organization.

This report describes a consultation held in August 2014 to study and consider the ethical implications of using unregistered interventions on Ebola patients that have not yet been evaluated for safety and efficacy in humans.

Brito, A., Klitzman, R., Redlener, I., et al. (2015). [Ethical Issues in Responding to a Global Disease Crisis: Ebola and Beyond](#). Columbia University, Earth Institute, National Center for Disaster Preparedness.

The speakers discuss ethical issues such as resource allocation and the pharmaceutical development process as they relate to Ebola and other global health threats.

Cohen, J., and Kupferschmidt, K. (2014). [Infectious Diseases. Ebola Vaccine Trials Raise Ethical Issues](#). Science. 17,346(6207):289-90.

The authors discuss the ethical concerns associated with having a control group when testing Ebola vaccines.

Fauci, A.S., Chertow, D., and Wendler, D. (2014). [NIH \(National Institutes of Health\) Clinical Center: Special Grand Rounds: \(3\) Ethical Issues Raised by the Ebola Crisis](#).

Starting in the 47th minute of the video, Dr. Wendler gives an overview of the ethical issues associated with the 2014 Ebola outbreak, with a focus on vulnerable individuals and groups.

Fowler, R., Ogundiran, T., Saxena, A., et al. (2014). [Ethics and the 2014 Ebola Outbreak. University of Toronto Joint Centre for Bioethics](#).

The speakers in this webinar discuss the ethical issues raised by the Ebola outbreak, key considerations that can inform an ethical response to an outbreak, and lessons learned about epidemics and ethics.

Hodge, J.G., and Beyda, D.H. (2014). [2014 Ebola Outbreak: Global Issues of Law, Policy, and Ethics](#). Robert Wood Johnson Foundation, Network for Public Health Law.

In this webinar, the speakers highlight legal and ethical challenges specific to Ebola (e.g., travel restrictions, vaccine development) and how the U.S. and international community are working to overcome them.

Orenstein, D. (2014). [Crisis Standards of Care: Public Health Ethics in Light of Evolving Mandates](#). (Free video software download necessary to view video.)

The presenter highlights the intersections between public health law and public health ethics, with a focus on public health emergency ethics.

Venkat, A., Wolf, L., Geiderman, J., et al. (2015). [Ethical Issues in the Response to Ebola Virus Disease in US Emergency Departments: A Position Paper of the American College of Emergency Physicians, the Emergency Nurses Association and the Society for Academic Emergency Medicine](#). (Abstract only.) Journal of Emergency Nursing. 41(2):e5-e16.

The American College of Emergency Physicians, the Emergency Nurses Association and the Society for Academic Emergency Medicine jointly developed a position paper to share guidance with U.S. emergency physicians, emergency nurses, and other healthcare stakeholders on how to approach the ethical dilemmas posed by the Ebola outbreak with commentary on duty to treat as well as clinical care.

Williams, M., Silverman, R., and Duwve, J. (2014). [Ebola Virus Disease: Legal and Ethical Considerations for Indiana](#). Indiana University, Center for Bioethics.

The authors explain the Ebola virus and associated legal and ethical considerations the Indiana State Department of Public Health should take into account when planning for Ebola and similar threats. These concerns can also be considered by other medical planners.

World Health Organization. (2014). [Ethical Issues Related to Study Design for Trials on Therapeutics for Ebola Virus Disease: WHO \(World Health Organization\)](#).

This meeting summary of the Ethics Working Group highlights areas in which members reached consensus and provides key points for companies who are conducting vaccine trials to consider. The authors include a decision matrix that can help potential researchers determine if their proposed studies are ethical in nature.

World Health Organization. (2014). [Meeting of the Ethics Working Group on Ebola Interventions](#).

Resources on this page include an agenda, list of participants, and a summary report of a 2014 meeting of the World Health Organization's Ethics Working Group on Ebola. The participants discussed ethical considerations associated with six case studies on trials on therapeutic interventions related to Ebola virus disease.

World Health Organization. (2015). [Ethics of Using Convalescent Whole Blood and Convalescent Plasma During the Ebola Epidemic](#).

This report highlights the ethical issues associated with using and researching the use of convalescent whole blood and convalescent plasma to treat patients with Ebola in both research and clinical settings.

### **Lessons Learned: Haiti**

Daniel, M. (2012). [Resource Stewardship in Disasters: A Provider's Dilemma Practicing in an Ethical Gap](#). (Abstract only.) *Journal of Clinical Ethics*. 23(4):331-5.

The author shares a healthcare provider's experience allocating an oxygen tank in the intensive care unit at a hospital in Port-au-Prince, Haiti after the 2010 earthquake and lists the factors that influenced her allocation decision. (It is important to note that her decisions were consistent with frameworks developed by the Institute of Medicine and others; see also Ytzhak, A., Sagi, R., Bader, T., et al. [2012] in this Topic Collection).

Etienne, M., Powell, C., and Amundson, D. (2010). [Healthcare Ethics: The Experience after the Haitian Earthquake](#). *American Journal of Disaster Medicine*. 5(3):141-7.

The authors describe the multidisciplinary Healthcare Ethics Committee set up aboard the USNS Comfort after the 2010 earthquake that devastated Haiti. The principles and some of the processes the authors illustrate in the article can be applied to future disaster medical relief efforts.

Eyal, N., Firth, P., and MGH Disaster Relief Ethics Group. (2012). [Repeat Triage in Disaster Relief: Questions from Haiti](#). PLOS Currents Disasters. 22(4).

Medical personnel who responded to the earthquake that struck Haiti in 2010 identify and explain five considerations they took into account when treating repeat patients. They concluded that “responders can permissibly give a degree of priority to existing patients over newcomers” after a disaster.

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. 18;362:e38(1-3).

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.

Wake Forest University Center for Bioethics, Health & Society in conjunction with the Wake Forest University Documentary Film Program. (n.d.) [In the Wake of Tragedy: Medical Ethics and the Haiti Earthquake](#). Film Project and Discussion Guide. (Accessed 8/3/2015.)

The project team had to make challenging ethical decisions about whom to treat and how to do so with scarce resource during their response in Haiti. Medical providers tried to answer, “How should these decisions be made? Who should make them? And how should medical aid workers deal with a limited supply of resources?” This webpage includes links to videos and a discussion guide.

\*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.

## Mental and Behavioral Health

\*Beaton, R., Reyes, G., and Call, J.A. (2007). [Disaster Research Ethics: Gaps, Challenges, and Team Sustainability](#). (Requires free registration.) Northwest Center for Public Health Practice.

Speakers in this two-part webinar provide tips and explain ethical considerations associated with conducting disaster mental health research with children and families.

\*Hamilton, L. (2007). [Ethical Issues in Disaster Response](#). (Requires free registration.) University of North Carolina, Gillings School of Global Public Health, Center for Public Health Preparedness.

The speakers in this webinar provide an overview of ethical issues and highlight those that may be associated with responder behavioral health before, during, and after an assignment.

Rutkow, L., Vernick, J., and Hodge, J.G. (2012). [Legal and Ethical Assessment Concerning Mental and Behavioral Health Preparedness](#). Robert Wood Johnson Foundation, Network for Public Health Law.

The authors provide links to resources that focus on ethical issues related to disaster behavioral health.

## Pandemic Influenza

Arras, J., Benjamin, G., Gamble, V.N., et al. (2007). [Stockpiling Antivirals for Pandemic Influenza: The Key Ethical Principles](#). Centers for Disease Control and Prevention.

This document can help decision makers charged with purchasing and storing antiviral drugs address the ethical principles that will likely arise during an influenza pandemic.

\*Ball, R., and Schneider, P. (2009). [South Carolina Prepares for Pandemic Influenza: An Ethical Perspective](#). South Carolina Department of Health and Environmental Control.

The authors share ethical principles and planning goals associated with pandemic influenza planning. Several templates are included as appendices.

\*Belmont, E., Abelman, D., Lax, J., et al. (2014). [Pan-Flu Preparedness: Key Legal Issues](#). American Health Lawyers Association.

This guidebook can be used as a "scalable tool" to help healthcare providers ethically and legally prepare for a pandemic.

Biddison, L.D., Berkowitz, K.A., Courtney, B., et al. (2014). [Ethical Considerations: Care of the Critically Ill and Injured during Pandemics and Disasters: CHEST Consensus Statement](#). *Chest*. 146(4 Suppl):e145S-55S.

The authors worked together to come up with ethical domains regarding caring for critically ill and injured patients. They developed 24 questions, conducted related literature reviews, and presented suggestions on five domains: triage and allocation, ethical concerns of patients and families, ethical responsibilities to providers, conduct of research, and international concerns.

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

The authors discuss the ethical reasoning behind vaccine prioritization and include a table that illustrates tiers and rankings (as of 2006).

Florida Department of Health. (2010). [Pandemic Influenza: Triage and Scarce Resource Allocation Guidelines](#).

The Florida Department of Health prepared this guidance document to help medical and healthcare entities statewide prepare for scarce resource allocation in the event of a pandemic influenza.

\*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.

Kinlaw, K., and Levine, R. (2007). [Ethical Guidelines in Pandemic Influenza](#). Centers for Disease Control and Prevention.

The Ethics Subcommittee of the Advisory Committee to the Director, Centers for Disease Control and Prevention proposed the guidance in this document to assist with decision making in preparing for and responding to pandemic influenza.

Lemon, S., Hamburg, M., Sperling, F., Choffnes, E., and Mack, A. (2007). [Ethical and Legal Considerations in Mitigating Pandemic Disease](#). (Free download available; book also available for purchase.) Microbial Threats Workshop Summary, Institute of Medicine of the National Academies.

This workshop summary defines the critical legal and ethical issues involved in the implementation of plans. A historical lessons-learned approach is discussed based on prior pandemics and biological outbreaks. The political and legal issues associated with medical and non-medical approaches to disease containment include positive health outcomes as well as adverse effects and unintended consequences.

\*Li-Vollmer, M., Beebe, A., Kite, H., et al. (2009). [Public Engagement Project on Medical Service Prioritization during an Influenza Pandemic](#). Public Health-Seattle & King County.

Public Health-Seattle & King County hosted four public engagement forums to discuss the rationing of scarce resources during a severe pandemic influenza. This report summarizes themes that emerged from the forums.

Meslin, E., Alyea, J., and Helft, P. (2007). [Pandemic Flu Preparedness: Ethical Issues and Recommendations to the Indiana State Department of Health](#). Indiana University, Center for Bioethics.

Authors from the Indiana University Center for Bioethics provide recommendations on four specific areas of ethical concern: management of the healthcare workforce; resource allocation; changes to the standard of care provided by healthcare professionals; and allocating scarce vaccines and antiviral medications.

\*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.”

\*Sharpe, V., Berkowitz, K., Cecire, R., et al. (2010). [Meeting the Challenge of Pandemic Influenza: Ethical Guidance for Leaders and Health Care Professionals in the Veterans Health Administration](#). U.S. Department of Veterans Affairs.

This guidance document is divided into five sections on ethical preparedness and response in a healthcare system: 1) an overview of ethical challenges; 2) workforce capacity and responsibility; 3) resource allocation; 4) hospice and palliative care; and 5) limiting personal liberty to preserve public health. The document also includes a checklist for implementing the plan guidance.

\*Spectrum Health. (2010). [Ethics Committee](#). State of Michigan's Caring for the Community Project.

This document is part of a set of guidelines that can help healthcare providers identify and provide essential healthcare services, while also caring for large numbers of hospitalized and home-bound patients during an influenza pandemic. In this document, the authors share basic ethical guidelines, explain the effect service limitations can have on a community, and share strategies for creating proposed solutions for community members to review and agree on before an incident occurs.

Thompson, A.K., Faith, K., Gibson, J.L., and Upshur, R.E.G. (2006). [Pandemic Influenza Preparedness: An Ethical Framework to Guide Decision-Making](#). *British Medical College Medical Ethics* 2006, 7:12

The authors share an ethical framework for pandemic influenza planning, which includes substantive and procedural elements.

\*University of Nebraska Public Policy Center. (2015). [Public Engagement Pilot Project on Pandemic Influenza Evaluation](#).

This webpage provides links to publications that resulted from public engagement sessions on pandemic influenza vaccination prioritization.

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.

U.S. Department of Veterans Affairs. (2010). [Meeting the Ethical Challenges of a Severe Pandemic Influenza: VA \(Veterans Affairs\) Fact Sheet for Health Care Staff](#).

This factsheet describes how healthcare providers can plan for and address the ethical challenges that may accompany a severe pandemic influenza.

Vawter, D.E., Garrett, E.J., Gervais, K.G., et al. (2010). [For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic](#). Minnesota Center for Health Care Ethics and the University of Minnesota Center for Bioethics.

This report—developed for the state of Minnesota—describes the reasoning behind the creation of ethical frameworks for rationing antiviral medications, N95 respirators, surgical masks, vaccines and mechanical ventilators during a pandemic that met nine specific assumptions. The guidelines can be adopted and tailored by other states.

## Pediatric Issues

Antommaria, A., Powell, T., Miller, J, Christian, M., and Task Force for Pediatric EMCC. (2011). [Ethical Issues in Pediatric Emergency Mass Critical Care](#). *Pediatric Critical Care Medicine*. 12(6):S163-168.

This article details the recommendations of the Pediatric Emergency Mass Critical Care Task Force (36 experts from diverse medical, public health, and disaster response fields). The authors highlight recommendations agreed upon by the task force and note those recommendations upon which the group was unable to reach consensus.

Botkin, J., O'Lonergan, T., Wilfond, B., et al. (2013). [Pediatric Ethics Subcommittee Meeting of the Pediatric Advisory Committee Meeting: September 9-10, 2013](#). U.S. Food and Drug Administration.

This meeting transcript includes a discussion of the Ethical Framework of 21 CFR Subpart D legal authority, and pediatric-specific ethical considerations associated with public health emergencies.

Presidential Commission for the Study of Bioethical Issues. (2013). [Safeguarding Children: Pediatric Medical Countermeasure Research](#).

This report is centered on Pediatric Medical Countermeasures research (testing interventions with children that will be used before, during, or in response to a bioterrorist attack). The Bioethics Commission also explained additional conditions that must be met before such pediatric research is ethically considered.

Wizemann, T., Reeve, M., and Altevogt, B. (2015). [Preparedness, Response, and Recovery Considerations for Children and Families. Workshop Summary](#). Institute of Medicine of the National Academies.

This report is a summary of presentations and discussions by expert medical and public health panelists and participants during a workshop on disasters and the needs of children and families, including children with special healthcare needs.

\*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.

## Plans, Tools, and Templates

\*Ball, R., and Schneider, P. (2009). [South Carolina Prepares for Pandemic Influenza: An Ethical Perspective](#). South Carolina Department of Health and Environmental Control.

The authors share ethical principles and planning goals associated with pandemic influenza planning. Several templates are included as appendices.

\*Belmont, E., Abelman, D., Lax, J., et al. (2014). [Pan-Flu Preparedness: Key Legal Issues](#). American Health Lawyers Association.

This guidebook can be used as a "scalable tool" to help healthcare providers ethically and legally prepare for a pandemic.

Clarinval, C., and Biller-Andorno, N. (2014). [Challenging Operations: An Ethical Framework to Assist Humanitarian Aid Workers in their Decision-Making Processes](#). PLOS Currents Disasters. 23(6).

The authors highlight several real-life cases involving ethical issues encountered by humanitarian aid workers and propose an ethical framework to assist with the decision-making process. The framework includes a ten-step process modelled on tools used in the clinical setting that promotes a transparent decision-making process, and the authors make organizational recommendations that will help healthcare facilities and disaster aid providers implement the framework.

Connerton, P. (2013). [Ethical Guidelines for the Development of Emergency Plans](#). American Health Care Association.

This guidance can help disaster planners incorporate ethical considerations into their documents, exercises, and other preparedness activities.

Institute of Medicine. (2015). [Regional Disaster Response Coordination to Support Health Outcomes: Summary of a Workshop Series](#).

This summary of an Institute of Medicine (IOM) workshop series of discussions related to regional approaches to health and medical disaster response can help coalition partners address coordination, information sharing, and surge capacity management. The report also provides best practices, ideas, and areas for additional research/investigation.

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

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.

Pezzino, G. (2009). [Guide for Planning the Use of Scarce Resources During a Public Health Emergency in Kansas](#). Kansas Health Institute.

Much of the guidance in this document focuses on a pandemic influenza scenario. The author explains ethical considerations and includes a "fast track" action plan that can be customized by healthcare providers and planners.

\*Sharpe, V., Berkowitz, K., Cecire, R., et al. (2010). [Meeting the Challenge of Pandemic Influenza: Ethical Guidance for Leaders and Health Care Professionals in the Veterans Health Administration](#). U.S. Department of Veterans Affairs.

This guidance document is divided into five sections on ethical preparedness and response in a healthcare system: 1) an overview of ethical challenges; 2) workforce capacity and responsibility; 3) resource allocation; 4) hospice and palliative care; and 5) limiting personal liberty to preserve public health. The document also includes a checklist for implementing the plan guidance.

\*Spectrum Health. (2010). [Ethics Committee](#). State of Michigan's Caring for the Community Project.

This document is part of a set of guidelines that can help healthcare providers identify and provide essential health care services, while also caring for large numbers of hospitalized and home-bound patients during an influenza pandemic. In this document, the authors share basic ethical guidelines, explain the effect service limitations can have on a community, and share strategies for creating proposed solutions for community members to review and agree on before an incident occurs.

\*The Ventilator Document Workgroup, Ethics Subcommittee of the Advisory Committee. (2011). [Ethical Considerations for Decision Making Regarding Allocation of Mechanical Ventilators during a Severe Influenza Pandemic or Other Public Health Emergency](#). Centers for Disease Control and Prevention.

This report provides all levels of decision makers with a summary of the ethical decision-making challenges associated with life-saving resource allocation, with a focus on ventilator allocation.

University of Pittsburgh, Graduate School of Public Health, Public Health Adaptive Systems Studies. (2012). [Legal and Ethical Indicators of Adaptive Public Health System Response](#).

This searchable database includes public health-specific ethical indicators by state. Users can search by keyword, jurisdiction, and "node" (e.g., home health care, laboratory, mental health).

\*Vawter, D.E., Garrett, J.E., Gervais, K.G., et al. (2011). [Attending to Social Vulnerability When Rationing Pandemic Resources](#). (Abstract only.) Journal of Clinical Ethics.

The authors provide an overview of the Minnesota Pandemic Ethics Project, an effort focused on rationing scarce health resources during a severe influenza pandemic. The authors list seven recommendations that can help vulnerable populations (and those who serve and treat them) before, during, and after an influenza pandemic.

\*Wisconsin Hospital Association. (2015). [Allocation of Scarce Resources](#).

The resources on this website include links to factsheets on ethics, and related tools, guidelines, and templates.

## Public Engagement

Garrett, J.E., Vawter, D.E., Gervais, K.G., et al. (2011). [The Minnesota Pandemic Ethics Project: Sequenced, Robust Public Engagement Processes](#). Journal of Participatory Medicine. Volume 3.

The Minnesota Pandemic Ethics Project developed ethical frameworks for allocating scarce medical resources during a severe influenza pandemic and gathered a community-based panel to facilitate related exchanges. This article describes the types and timing of public engagement methods, the strengths and challenges, and how the methods fit together.

\*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.

\*Li-Vollmer, M., Beebe, A., Kite, H., et al. (2009). [Public Engagement Project on Medical Service Prioritization during an Influenza Pandemic](#). Public Health-Seattle & King County.

Public Health-Seattle & King County hosted four public engagement forums to discuss the rationing of scarce resources during a severe pandemic influenza. This report summarizes themes that emerged from the forums.

\*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.

\*University of Nebraska Public Policy Center. (2015). [Public Engagement Pilot Project on Pandemic Influenza Evaluation.](#)

This webpage provides links to publications that resulted from public engagement sessions on pandemic influenza vaccination prioritization.

**Resource Allocation and Triage** (*Note: the resources included in this category are primarily systems/review publications. For clinical specifics, refer to the [Crisis Standards of Care Topic Collection](#). For event-specific resources, refer to the Lessons Learned sections in this Collection.*)

Daniels, N. (1988). *Am I My Parent's Keeper?* (Book available for purchase.)

The author presents a principled way to allocate healthcare and other resources to different age groups in our society. His argument is rooted in a theory of distributive justice.

Daniels, N. (2000). [Accountability for Reasonableness: Establishing a Fair Process for Priority Setting is Easier than Agreeing on Principles.](#) *British Medical Journal.* 321(7272): 1300–1301.

The author emphasizes the need for a transparent, fair process to be in place for any resource allocation frameworks to be successful—a key aspect of disaster planning.

Daniels, N., and Sabin, J.E. (2002). *Setting Limits Fairly: Can We Learn to Share Medical Resources?* (Book available for purchase.) New York: Oxford University Press.

The authors emphasize that without consensus on how to allocate medical resources, a fair decision-making process should be established to help healthcare providers set reasonable limits.

Hick, J., Hanfling, D., and Cantrill, S. (2011). [Allocating Scarce Resources in Disasters: Emergency Department Principles.](#) *Annals of Emergency Medicine,* Vol 20(10): 1-11.

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.

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.

Knebel, A., Sharpe, V., Danis, M., et al. (2014). [Informing the Gestalt – An Ethical Framework for Allocating Scarce Federal Public Health and Medical Resources to States during Disasters](#). (Abstract only.) *Disaster Medicine and Public Health Preparedness*. 8(1):79-88.

The authors, who have extensive experience in Federal and other related settings, share an ethical framework and logic model for medical decision making in disaster situations when resources are often particularly scarce.

Kraus, C., Levy, F., and Kelen, G. (2007). [Lifeboat Ethics: Considerations in the Discharge of Inpatients for the Creation of Hospital Surge Capacity](#). (First page only.) *Disaster Medicine and Public Health Preparedness*. 1(1): 51-56.

The authors discuss the ethics of triage with attention to the less common situation of triaging patients for discharge from the hospital to make room for incoming patients.

O'Laughlin, D., and Hick, J. (2008). [Ethical Issues in Resource Triage](#). *Respiratory Care*. 53(2):190-200.

The authors present several ethical principles emergency medical care providers should take into account when developing a mass care triage plan.

Persad G., Wertheimer A., and Emanuel, E.J. (2009) [Principles for Allocation of Scarce Medical Interventions](#). *Lancet*, 373:423–31.

The authors evaluated four categories of resource allocation principles (treating people equally, favoring the worst-off, maximizing total benefits, and promoting and rewarding social usefulness). Because they determined that no one principle is comprehensive enough, they suggested combining them into "multiprinciple allocation systems." The authors recommended the "complete lives system—which [prioritizes] younger people who have not yet lived a complete life, and also incorporates prognosis, save the most lives, lottery, and instrumental value principles."

\*The Ventilator Document Workgroup, Ethics Subcommittee of the Advisory Committee. (2011). [Ethical Considerations for Decision Making Regarding Allocation of Mechanical Ventilators during a Severe Influenza Pandemic or Other Public Health Emergency](#). Centers for Disease Control and Prevention.

This report provides all levels of decision makers with a summary of the ethical decision-making challenges associated with life-saving resource allocation, with a focus on ventilator allocation.

\*Vawter, D.E., Garrett, J.E., Gervais, K.G., et al. (2011). [Attending to Social Vulnerability When Rationing Pandemic Resources](#). (Abstract only.) *Journal of Clinical Ethics*.

The authors provide an overview of the Minnesota Pandemic Ethics Project, an effort focused on rationing scarce health resources during a severe influenza pandemic. The authors list seven recommendations that can help vulnerable populations (and those who serve and treat them) before, during, and after an influenza pandemic.

Winslow, G. (1982). *Triage and Justice: The Ethics of Rationing Life-Saving Medical Resources*. (Book available for purchase.)

In this classic text, the author lays out model ethical frameworks for allocation of scarce, lifesaving resources.

Wisconsin Hospital Association. (2010). [Guidelines for the Allocation of Scarce Resources](#).

Healthcare providers can use the guidance in this document to help them plan to provide treatment in an ethical manner to survivors of a mass casualty incident.

\*Wisconsin Hospital Association. (2015). [Allocation of Scarce Resources](#).

The resources on this website include links to factsheets on ethics, and related tools, guidelines, and templates.

## Agencies and Organizations

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

Bioethics Library at Georgetown University. [The Ebola Outbreak: A Global Conversation and Resources](#).

Johns Hopkins Berman Institute for Bioethics. [Public Health Ethics](#).

National Library of Medicine; Disaster Information Management Research Center. [Information Sources on Ethics in Disaster Medicine and Public Health](#).

[Presidential Commission for the Study of Bioethical Issues](#).

The Hastings Center. [Pandemic Planning](#).

*This ASPR TRACIE Topic Collection was comprehensively reviewed in July and August 2015 by the following subject matter experts (listed in alphabetical order): **Eric Alberts**, BS, FPEM, CHS-V, CDP-1, CHPP, CHEP, SEM, CFRP, FABCHS, Manager, Emergency Preparedness, Orlando Health, Inc. (Hospital System); **Stephen Curren**, MS, Office of Emergency Management, Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services; **Marion Danis**, MD, Department of Bioethics, National Institutes of Health; **John Hick**, MD, HHS ASPR and Hennepin County Medical Center; **Tia Powell**, MD, Center for Bioethics, Montefiore Health System and Albert Einstein College of Medicine; **Mary Russell**, EdD MSN, Emergency Services, Boca Raton Regional Hospital; and **Virginia Ashby Sharpe**, PhD, Acting Deputy & Chief, Ethics Policy, National Center for Ethics in Health Care, Veterans Health Administration and Adjunct Faculty, Georgetown University Center for Clinical Bioethics.*

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