ETHICAL GUIDANCE FOR CRISIS STANDARDS OF CARE IN ILLINOIS

INTRODUCTION

This guidance document was developed by the Ethics Subcommittee of the Crisis Standards of Care (CSC) workgroup for the state of Illinois. The CSC workgroup is a collaborative initiative by the Illinois Department of Public Health (IDPH) and the Chicago Department of Public Health (CDPH) under the auspices of their Hospital Preparedness Program activities. This workgroup is charged with the development of a statewide, CSC plan based on the elements outlined in the Institute of Medicine's 2009 Letter Report *(*IOM, 2009 *Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report)*.

The Ethics subcommittee convened in 2014. The subcommittee consists of clinical ethicists and academic ethicists with diverse clinical experiences and academic perspectives from across the state. The Ethics subcommittee was tasked with the development of an ethical framework to guide the process of creating crisis standards of care for the State of Illinois. We used the IOM letter report's definition for crisis as the basis of our deliberations: "a substantial change in usual healthcare operations and the level of care it is possible to deliver, which is made necessary by a pervasive (e.g., pandemic influenza) or catastrophic (e.g., earthquake, hurricane) disaster. This change in the level of care delivered is justified by specific circumstances and is formally declared by a state government, in recognition that crisis operations will be in effect for a sustained period." *(*IOM, 2009 *Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report)*.

After a review of the relevant literature and existing guidelines, the subcommittee agreed on generally accepted norms for ethical decision-making in healthcare crises. The subcommittee is indebted to the work of others in this area for many of the recommendations made in this document. These norms were revised to reflect the unique values and issues to the delivery of care during a healthcare crisis in Illinois and then compiled into a summary document (reference attachment). This summary document was presented at the June 2015 Crisis Standards of Care engagement. In fall 2015, the subcommittee reviewed qualitative data collected during key stakeholder meetings held across the state. This input was incorporated into revisions of the summary document. The summary document was then expanded into this white paper. We anticipate that this paper will be revised once more after we are able to collect input from a thorough community engagement process.

This review is meant to provide a framework for the statewide effort in developing ethically sound policies, practices and guidelines for providing health care in a crisis situation. Many concepts within this document may also be applicable to organizations developing institution-specific policies and procedures, though individual organizations are not the principal audience.

This document begins by describing the unique principles that guide ethical decision-making in a public health crisis when a shift in perspective from the individual to the community is required. We follow this with a detailed description of the values and ethical categories that guide the provision of care in a public health crisis. We then describe general strategies that are required in the process of development and implementation of a standard set of procedures to insure that they are ethically robust. We then focus on resource allocation in times of scarcity, providing guidance on both positive obligations and triaging tools. Finally, we close with case examples to provide guidance and an opportunity to self-reflect on analysis of particularly difficult clinical situations. We emphasize that these case assessments do not present formal instructions but rather tools for deliberation. Ultimately decision-makers during a public health emergency must use their best professional discretion, recognizing that human judgment is fallible.

During its deliberations the subcommittee made several assumptions:

- The development of standards of care will be transparent and will involve input from the community, particularly underrepresented groups
- Wherever possible, standards of care will be evidence-based and revisions will incorporate generally accepted quality improvement strategies.
- A crisis situation is a regional disruption, not simply a local disruption.

Goals

In developing this document the subcommittee recognized three salient goals in the development of crisis standards of care that will pursue the common good for the people of Illinois. First, the goal of healthcare during a public health crisis is to minimize morbidity and mortality. This includes the delivery of healthcare and requires the maintenance of critical infrastructure for a functioning society. Second, the delivery of care in a public health crisis must be fair. Finally, crisis standards of care should aim to maintain community resilience during and after a crisis.

ETHICAL FOUNDATIONS

An Ethical Framework provides guidelines for deliberation on planning and action. However, these guidelines are rooted in foundational ethical theories that provide a reason and process for their use. The Framework in Table 1 offers a perspective grounded in population-based theories which differ from the individual-based ones that usually operate in conventional scenarios.

Conventional Ethics

In conventional times, health care relies predominantly on theories that emphasize the individual (such as deontology). Medical ethics is often practiced using the four principles outlined by Beauchamp and Childress: autonomy, beneficence, nonmaleficence, and judgment (Beauchamp, Tom L., and James F. Childress. 2009. *Principles of biomedical ethics*. New York: Oxford University Press.)

This approach is termed Principlism. *Autonomy* states that a person who is competent or capacitated has a right to self-governance; to make his or her own decisions or to appoint a surrogate to make those choices on their behalf. An autonomous individual, philosophically, is one who is an island unto him/herself, making decisions that are not

coerced by others and whose influence from others is rarely considered. For example, we rarely refuse to provide a patient with medical treatment based on financial ability, equipment reallocation or limited physician time.

Beneficence asserts that a health care provider is obligated to provide benefit to the patient (including protection from harm) and *nonmaleficence* means that a provider must not do harm to a patient. The concept of *Justice* identifies that there should be an equitable distribution of resources and fairness (no discrimination). This is the community perspective. In operation, autonomy often trumps the other principles.

In conventional times, there is a fiduciary relationship between a single patient (and/or his/her family) and a provider (or group or hospital). As the patient is in a vulnerable position—dependent on the physicians' knowledge and skill to diagnose and treat—the provider promises confidentiality, protection, and competence in skill and knowledge to help the patient.

Crisis Ethics

A crisis situation presents a challenge to Principlism and other theories that rely on two actors. Prioritization of medical goals shifts from respecting and maintaining individual liberty to stewardship that protects the public from harm (for the greater good). In a crisis, the provider is not a physician (group or hospital), but rather the government and the patient is less a single individual (though individuals are acted upon) than the whole community. In other words, the objective of care in a crisis is to "pursue the Common Good for the people of Illinois." As the fiduciary relationship is between the people and the governing authority it is necessary to look at ethical theories of groups.

Communitarianism holds that the good of the group comes before the individual. Since the group is composed of individuals anything that benefits the group also benefits the individual. The individual is seen as a connected entity whose actions and choices have an impact on others.

Contract theory holds that individuals come together for common causes that benefit all. Examples include defense, infrastructure (roads, clean water, and electricity) and public health. These are resources that an individual on his/her own would be unable to realistically provide. Each person in a society relinquishes some liberty to a central authority that can provide the needed resource because without it, common needs would be unmet and there would be disruption and a greater potential for chaos.

Utilitarianism holds that the right decisions are those that increase the aggregate utility (benefit) of the population. Utility might be pleasure, happiness, or health. In short, one can think of this idea as doing the greatest good for the greatest number of people.

While the theory of justice in the Principlism framework incorporates this population perspective, this approach still places the individual's goals above the population's and loses the fuller development of ethical theories of public health. Table 3 describes alternative principles based on ethical principles of public health or Public Health Principlism.

Public Health Principlism describes four principles that are more applicable to a crisis standard of care situation: Solidarity, Efficacy, Integrity, and Dignity. *Solidarity* is the notion that any plan to intervene must benefit the community by reducing the aggregate morbidity and mortality of the population. (aim 1: Pursue the Common Good for the people of Illinois;

aim 2 to "protect the population's health, "public safety, and civil order," "enhancing community resilience")

Efficacy is the idea that an intervention must be scientifically sound and feasible. Proposals ought be supported by data. Programs must have social, cultural, religious, and political support. If such support is lacking, there may be an opportunity to convince others of the necessity of the intervention, or it may mean choosing a secondary option that is more acceptable to the community. This notion incorporates the idea of striving for fairness and protecting against unfairness (i.e. justice).

The principle of *Integrity* states that interventions should preserve the nature and character of a community by choosing the least destructive alternative. The dedication to community can be seen by involving key community stakeholders in planning and ensuring clear and transparent explanation of concepts, plans, and interventions. Any proposed operations must strive to disrupt the daily lives of people as little as possible. In other words, responses should be proportional to threats. This concept includes the notion of enhancing community resilience, trust, and reciprocity.

The last decision-making guide is *Dignity*; the notion that one should preserve human rights. In a crisis situation, human beings will need to be protected. But, such interventions cannot come at the cost of violating our human rights. Thus, the corollary to this principle is *the least restrictive alternative means* must be used. If there are options, choose the one that limits life and liberty the least.

Public Health Principles are guidelines for moral deliberation. A weighing and balancing of the principles is important. In general, one ought to first consider the Solidarity issues, followed by Efficacy, Integrity, and Dignity concerns. For example, consider an individual who arrives at a hospital with symptoms of Ebola. Under Solidarity, reducing morbidity and mortality requires isolating this individual and separately isolating all of those with whom he or she has come into contact. Efficacy asks if the science supports this and it is feasible: Effectiveness has been demonstrated by the history of quarantine and germ theory. Isolation may require public conversations to convince the public of its value, as it has acceptable historical precedence. Thus, it should be socially, culturally, and religiously acceptable. Integrity suggests that community leaders, not just health personnel, should be involved immediately. Dignity requires protection of human rights, striving to use the least restrictive means available. In this case, patients' liberty (i.e. freedom of movement) must be restricted to respect the principle of Solidarity. The least restrictive alternative would be to ask people to keep themselves isolated from others. Of course, if the infected or potentially-infected refuse to isolate themselves, then quarantine—enforced isolation—could be instituted.

Table 1: Ethical Principles of Crisis Standards of Care

Solidarity	• Promote Common Good • Reduce morbidity & mortality
Integrity	• Respect for community • Least destructive alternative
Efficacy	• Scientifically sound • Culturally, socially, politically feasible

Dignity	• Preserve human rights • Least restrictive alternative

SUBSTANTIVE VALUES

In this section the following ethical values are further described: solidarity, individual liberty, protection of the public from harm, proportionality, equity, privacy, duty to provide care, reciprocity, trust and stewardship. These values are the building blocks for ethical principles that can guide public policy. They are thus basic for the ethically justifiable, public provision of health care in a health care crisis. We are indebted here to the 2005 report by the University of Toronto Joint Centre for Bioethics, "Stand on Guard for Thee." (Upshur, 2005) Where it seems proper, we have made adjustments in order to emphasize our concept of the foundational public health values for Crisis Standards of Care.

Public health ethics requires a readiness to recognize the range and complexity of the values at stake in any crisis situation. In any actual crisis most of the values below will be applicable; in practice, some may conflict with others. It may even be necessary to make decisions, give directions and perform actions that would normally be ethically unacceptable (e.g. restrict liberty for the sake of quarantine). However, in the process of balancing the applicable values against one another, the distribution of health services must never violate the principle of equal human dignity.

The values below are ethically rich; they are deeply rooted in the modern tradition of philosophical ethics. They are developed here only enough to provide the elements for the formulation of the Crisis Standards of Care for the State of Illinois or for use by other agencies that might formulate such standards. Such standards will provide the basis for operational procedures in the public provision of health care in a crisis. These procedures will provide guidance and support to emergency personnel in complex situations. The committee stresses that, in the complex context of a health care crisis, predefined procedures may be inadequate. Ideally, emergency personnel will be trained in applying the relevant standards and systems will be in place to support personnel who must make decisions in complex situations. Careful deliberation and conscientious judgment will be required.

Table 2: Substantive Values of Crisis Standards of Care

Substantive Value	Description
Solidarity	*Solidarity* focuses on decisions made to benefit the community. In emergency contexts, the specific goal is to reduce aggregate mortality and morbidity for the people of Illinois. This is likely to require collaborative approaches that constrain both individual self-interest and territoriality among health care professionals, services, and institutions.
Individual Liberty	In a public health crisis, restrictions to individual liberty may be necessary to protect the public from serious harm. Restrictions to individual

	liberty should: • Be proportional, necessary, and relevant • Employ the least restrictive means • Be applied equitably.
Protection of the Public from Harm	To protect the public from harm, health care organizations and public health authorities may be required to take actions that impinge on individual liberty. Decision makers should: • Weigh the imperative for compliance • Communicate reasons for public health measures in order to encourage and support compliance • Establish mechanisms to evaluate and review decisions. • Collaborate with available community services to support and provide care • Provide a mechanism for public input for review after resolution of the crisis
Proportionality	*Proportionality* requires that restrictions to individual liberty as well as measures taken to protect the public from harm should not exceed what is necessary to address the actual level of risk to or the critical needs of the community.
Equity	All patients have an equal claim to receive the health care they need under normal conditions. During crisis care, difficult decisions will need to be made about which health services to maintain and which to defer. Depending on the severity of the health crisis, this could curtail not only *elective* services but could also limit the provision of *necessary* services. Nevertheless, the distribution of health services must never violate the principle of equal human dignity. Every personal effort must be made not to distribute services on the basis of gender, race, ethnicity, citizenship, national origin, religious belief, sexual orientation, cisgender/transgender status, social value, pre-existing physical or mental disability unrelated to the medical diagnosis or need, or socioeconomic status, including ability to pay.
Privacy	Individuals have a right to privacy in health care. In a public health crisis, it may be necessary to override this right to protect the public from serious harm. When necessary such overrides should be proportional (i.e. only information that is needed) and

	only given to those who need it.
Duty to Provide Care	Inherent to all codes of ethics for health care professionals is the duty to provide care and to respond to suffering. Health care providers will have to weigh the demands of their professional roles against competing obligations to their own health and to family and friends. Moreover, health care workers will face significant challenges related to resource allocation, scope of practice, professional liability, and workplace conditions.
Reciprocity	Reciprocity requires that society support those who face a disproportionate burden in protecting the public good, and take steps to minimize burdens as much as possible. Measures to protect the public good are likely to impose a disproportionate burden on health care workers, key personnel, and their families.
Trust	Trust is an essential component of the relationships among clinicians and patients, staff and their organizations, the public and health care providers or organizations, and among organizations within a health system. Decision makers will be confronted with the challenge of maintaining stakeholder trust while simultaneously implementing control measures during an evolving health crisis. Trust is fostered by making the decision-making process as transparent as possible and separating individual providers from ethically fraught decisions.
Stewardship	Those entrusted with governance roles should be guided by the concept of stewardship. Being a good steward involves being trustworthy, behaving ethically, and exercising good judgment. In a healthcare emergency, a good steward allocates resources so as to achieve the best available patient health and public health. If resources are scarce, their allocation will leave some individuals with inadequate resources. Nevertheless, any allocation must be fair and, ideally, should be perceived to be fair.

General Ethical Strategies for Response Planning

The development and implementation of ethically sound Crisis Standards of Care for the state of Illinois will rely on 6 general strategies for disaster response planning. We support the general approach to response planning described in the 2012 Institute of Medicine (IOM) Report on a *Systems Approach to Disaster Planning* (IOM, 2012). These strategies are based on generally accepted procedural values for response planning, like those described in the report from the Joint Centre of Bioethics in Toronto, *Stand On Guard for Thee* (Bioethics and Group 2005) (Table 3). They are also supported by the public health principles applicable to crisis situations described in this report. They are:

- Commit to a comprehensive systems framework for disaster and crisis response
    - Different components must be viewed as interrelated components of a single system
    - Specific methods should be employed to achieve and maintain the overarching system
- Use crisis guidelines consistently across the state
- Gather and continuously assess information for continuous quality improvement
- Continuously assess impact of response plans
- Review and adjust strategies in light of new information
- Establish and share Best Practices

Early planning with engagement and integration with all stakeholders in response planning increases the likelihood of enacting reasonable and inclusive responses (*supporting principle: efficacy; supporting values: reasonable, inclusive, accountable, solidarity*). Planners ought recognize that each component of a response planning effort is interrelated and assess all proposed strategies using the benchmark of preserving the health delivery system (*supporting principle: solidarity*). Preservation of the system requires attention to the defense of solidarity and trust, as well as the physical processes of healthcare delivery, such as resource management and clinical integration (*supporting principles: solidarity, efficacy, integrity, dignity; supporting values: individual liberty, protection of the public from harm, proportionality, privacy, equity, trust, solidarity, and stewardship*)

Once developed, Crisis Standards of Care (CSC) ought be widely disseminated and consistently used. This maximizes the likelihood that the community is working in unison (*supporting principles: solidarity, integrity, dignity, supporting values: open and transparent*) and the most reasonable plans are enacted (*supporting principle: efficacy; supporting values: reasonable*). An ethically sound planning strategy will recognize and plan for the fact that the initial plan must be responsive to new information and prepared for change. An ethically sound planning strategy should incorporate processes for gathering information, reviewing the current strategies, and adjusting them as needed (*supporting principle: efficacy; supporting values: responsive, accountable*). With the goal of maximizing efficacy and minimizing harms, a sound plan for CSC must have open and transparent communication and must be accountable to the community (*supporting principles: solidarity, integrity; supporting values: open and transparent, accountable*). This will entail attention to methods of assessment and communication both within the system and outside of it, including consideration of methods to share Best Practices (*supporting principle: efficacy, supporting values: responsive, open and transparent*).

The committee strongly encourages and supports attention to each of these general ethical strategies for response planning at every phase of planning.

Table 3: Ethical Strategies for Crisis Standards of Care

Procedural Value	Description
Reasonable	Decisions should be based on reasons (i.e., evidence, principles, and values) that stakeholders can agree are relevant to meeting health needs in a healthcare crisis. The decisions should be made by people who are credible and accountable.
Open and transparent	The process by which decisions are made must be open to scrutiny, and the basis upon which decisions are made should be publicly accessible.
Inclusive	Decisions should be made explicitly with stakeholder views in mind, and there should be opportunities to engage stakeholders in the decision-making process.
Responsive	There should be opportunities to revisit and revise decisions as new information emerges throughout the crisis. There should be mechanisms to address disputes and complaints.
Accountable	There should be mechanisms in place to ensure that decision makers are answerable for their actions and inactions. Defense of actions and inactions should be grounded in the 14 other ethical values proposed above.

.

ALLOCATION OF RESOURCES AND SERVICES

A. Assess the probability that a scarcity of resources may occur and plan in advance how to address such scarcity.

Thinking about what is needed during a crisis should not happen during the crisis. Preplanning is essential in the areas of both material resources and human resources. Failure to plan in advance of a crisis can lead to widespread panic within leadership structures and the community. It can also undermine the public's trust in leadership during the current and future crises.

When discerning how to best distribute scare resources in a crisis, planning must be proactive. Preplanning enables assessment of: the definition of the Common Good, resources required to maximize the Common Good of a community, assessment of the plans' efficacy, includes respect for the dignity of persons and the integrity of the community as a whole. The values of Public Health Ethics are also promoted by a proactive approach to planning and assessment. Doing so supports collaboration and thus solidarity among community members and services. It also minimizes the chances that individual liberty will be unnecessarily restricted by assessing whether responses are proportionate, necessary, or relevant, rather than making quick, local, uncoordinated decisions in a crisis. Pre-planning also increases the ability to protect the public from harm, which includes explaining the reasoning behind allocation decisions, restrictions and other infringements implemented in a crisis. Equity is also protected by this approach, which minimizes the opportunity for decisions that may violate the dignity of persons and are unjustly discriminatory. Being proactive in assessment and planning may reduce the chances that patient privacy is inappropriately violated, establishing safeguards and guidelines for superseding patient's privacy in the interest of public health.

A CSC plan should evaluate the probability that resources may be scarce in a time of crisis and discern how to best address the potential for scarcity (e.g. maintaining stockpiles, identifying alternate suppliers, developing plans for rationing supplies). An assessment of resources includes recognition of the needs of those shouldering a disproportionate burden due to their role in protecting the public good (e.g. health care workers, law enforcement, sanitation workers).

Pre-planning and assessment will engender trust among governmental and care delivery organizations and the public. It will provide an opportunity for collaboration and transparency before the crisis occurs, which may serve to further enhance trust during the crisis. Finally, allocation decisions can be better assessed before the crisis occurs and judgments are likely to be more clear and fair when made in a non-crisis environment. Good stewardship of human and material resources will not only engender trust, it may minimize the impact of scarce resources and the level of scarcity experienced by those impacted by it.

Depending on the type and duration of the crisis scarcity of resources and services may take many forms. Distribution and reallocation plans should address the anticipated nature, duration, and severity of the scarcity. For example, a tornado or other similar sudden onset event with destruction of basic, physical infrastructure will require very different planning then a prolonged event that is primarily health-related (e.g. an influenza pandemic).

At all levels of planning, reasonable efforts should be made to acquire, gain access to, stockpile, and/or prepare for sufficient levels of resources and services to alleviate the need to ration these resources and services during a crisis.

One means of extending the ability to provide care during a crisis is to extend supplies and conserve resources. Extending supplies and developing alternate methods of care is ethically appropriate during a crisis situation. If supplies cannot be extended to meet the need during the crisis then rationing of supplies or resources is justified. Rationing should occur only as a last resort and rationing strategies should be scaled to different levels of scarcity. The goal is to use the least restrictive means of resource reallocation to promote the Common Good without violating the tenet of equal human dignity.

B. Whenever possible, avoid making definitive decisions <u>alone</u> (such as who to treat/not treat or triaging to palliative care), instead rely on pre-defined processes and/or team-based decisions.

Whenever possible individuals should collaborate with others and avoid making definitive triage decisions alone. We recommend a team approach supported by a pre-defined process and decision-making tools. This can help to avoid bias and will also allow the burden of reallocation to be shared. Establishing a rapid process or algorithm for decision making based on factual available information supports fairness and the ability of health providers and key personnel to manage the crisis. The secondary gain beyond fair distribution of services and resources is for the direct care provider. Many triage decisions, each one of them unique, can burden the provider when made alone. Post-crisis, the retrospective review personally and professionally will be weighed against how fairly a decision was determined and how those decisions were reached.

Conditions of over-whelming scarcity limit autonomous choices for both recipients and providers regarding the reallocation of scarce resources. Even in these difficult situations it is not permissible to act in a way that violates the ethical principles of: beneficence, non-maleficence, and justice.

C. Do NOT ration skills or resources unless based on the ethical principles. **Except in cases of essential workers, see E below**

It is inappropriate and not permissible to ration based on: gender, race, ethnicity, citizenship, national origin, religious belief, sexual orientation, cisgender/transgender status, social value, pre-existing physical or mental disability unrelated to the medical diagnosis or need, or socioeconomic status including ability to pay, judgments that some people will have a greater quality of life than others, as determined by the values of the decision maker. These criteria are not taken into account when rationing care insofar as they generally have no impact on the ability of persons to benefit from care. For example, a patient with developmental delay is not less likely to benefit from a course of antibiotics than a university professor; an uninsured female is not less likely to benefit from treatment than an undocumented, uninsured immigrant. Rationing based on these attributes also undermines the concepts of solidarity, equity, and the value of the individual.

Rationing decisions should also not be based on judgments that some persons have greater or lesser quality of life than others. This is particularly true in the case of an individual who makes a rationing decision. Assessment of a patient's quality of life is highly subjective and falls rightly to the patient or designated decision maker. Individuals making decisions for others may not be aware of their own biases or may have conflicting personal interests in making rationing decisions based on quality of life criteria. There is a greater

risk in this case of an inappropriate application of quality of life in determining resource reallocation. Similarly, social worth should not be a basis for rationing decisions. For example, those with advanced degrees, community leaders, spiritual leaders or others should not be prioritized over those who are manual laborers, sanitation workers, or inmates. Realistic assessment of the positive effects on the Common Good due to allocation decisions based on community survival should be addressed in pre-planning.

D. Generally, de-prioritize persons unlikely to benefit from the resource. Access to palliative care resources and services should be provided to these persons in order to minimize pain and suffering.

Guidelines should allow for the de-prioritization of persons unlikely to benefit from the resources available. Ideally, the individuals making triage decisions should not be involved in direct patient care or carry any burden of relationship with those de-prioritized. Further recommended safeguards for ethical decision-making would include making de-prioritization decisions in a group; this would be particularly useful in smaller communities where individuals are likely to carry the burden of a relationship with deprioritized persons. Careful and ongoing assessment of deprioritized individuals is essential. Individuals de-prioritized should not meet any of the criteria established for priority status, and be determined to not be able to survive with the resources available.

Palliative care resources should be consistently available to individuals de-prioritized and their families. A concerted effort should be made to minimize pain and suffering for that de-prioritized individual is imperative.

E. When necessary, prioritize essential or key workers to support critical infrastructures and the health of the population.

When necessary, essential workers should be prioritized on a separate track, in parallel with a track for the general public. Discernment regarding who is an essential worker should occur in advance when possible. Essential workers are those who assist in maintaining the health infrastructure or maintain public safety, and civil order. The definition of an essential worker is situation-dependent. Ongoing assessment of who are essential workers may be required throughout the crisis.

When prioritizing those determined to have key-worker status, the benefits to critical infrastructure and the health and safety of the population must be carefully evaluated. This may present situations where a key worker may cross over to a general public track with regard to certain resources. For example if a key worker has injuries that would prevent him or her from continuing to function in an essential role, that worker may then cross over to the general public track for treatment once stabilized. The key worker is prioritized only in the case that their receipt of preventive or therapeutic treatment enables the fulfilment of the ethical objectives described above.

Immediate medical need should be primary, with a critical general public victim receiving possible resource allocation ahead of a key worker with lesser injuries. However, all things being equal, priority status would prevail. For example, if a key worker and a member of the public required the splinting of a limb or treatment of a wound, the key worker (who could return to his or her work) would receive care first. However, a public victim with an acute abdominal injury would be prioritized over a key worker with a knee injury. Immediate medical need will be weighed against resources.

F. Reallocate different resources to reduce overall mortality and morbidity (rather than resort to random processes from the start)

Different resources should be reallocated with the goal of reducing overall mortality and morbidity in order to promote solidarity. This reallocation process should be organized and dynamic. Random determinations are to be avoided, as this will add to the inherent chaos of the situation.

Reallocation decisions require knowledge of available resources. This should be assessed as soon as possible and in an on-going fashion. Alternative plans should be established in the event resources become depleted or inaccessible. This may require difficult re-prioritization decisions. A coherent and transparent approach to re-prioritization should be maintained.

Key guiding questions include:

- What will be required and how soon?
- Where will these resources come from?
- When will they be available?
- What are the plans for acquiring additional resources?
- What should be done if resources are unavailable?

Reallocation of resources should consider the individuals' roles in maintaining the health of the population and critical infrastructure. When assessing resources for key workers it is essential to determine the risks of the individuals' occupational exposure in supporting critical infrastructure and the health of the population during the crisis. In addition it is necessary to assess whether an individual worker has a unique skill that is imperative to achieve the best possible outcome for society.

Regardless of priority, the anticipated good or acceptable response to the available resources should be continually assessed.

G. Under conditions of scarcity, a randomized process may still be necessary to fairly distribute both preventative and treatment resources to persons within the same level of prioritization.

In a crisis situation where conditions of scarcity exist after applying all rational criteria for distribution, (de)prioritization, and/or rationing of scarce, a randomized selection process may be necessary to fairly distribute both preventative and treatment resources to persons within the same level of prioritization. In this situation the persons in the randomized selection process are understood to have been selected by standard criteria and the final distinction between two people equally likely to receive benefit may need to be made by randomized selection process. This would minimize the risk of any bias in the distribution of resources, promoting equity in the distribution of resources.

SCENARIOS

PANDEMIC

In early fall, a novel influenza virus was detected in the United States. Cases rapidly spread across pockets of the United States. The virus exhibited a mortality rate double the usual expected influenza mortality, with a predilection toward school-age children.

Emergency departments across the state began to see a marked rise in patient volumes, and concerns were expressed that resources required for the sustained delivery of patient care might be strained. The state disaster medical advisory committee was convened, with supplemental representation from pediatric and pediatric critical care, in addition to the committee's usual representatives. The committee made revisions to their prior guidance to manage a surge in patient care demand based on available epidemiologic information. Information was circulated to clinicians and nurses reminding them of the planning work. Television and social media were used as an opportunity to reinforce hopeful, yet realistic messaging about preparedness for a possible scarce resource situation.

As the pandemic worsened, the state requested activation of the Strategic National Stockpile (SNS) for delivery of additional antiviral medications and personal protective equipment (PPE). The state's emergency operations center (EOC) was opened and interfacility Memorandums of Understanding were activated. The State Department of Health (DOH) coordination efforts relocated to the state EOC. Area hospitals moved from conventional care to contingency care as the pandemic worsened, with many reducing elective surgeries, boarding intensive care unit (ICU) patients in stepdown units, boarding floor patients in procedure and post-anesthesia care areas, and setting up rapid screening and treatment areas emergency for the mildly ill apart from the emergency department, where volumes doubled. Homecare agencies noted a significant increase in the acuity and volume of their patient referrals. Ambulatory care clinics had to clear schedules to accommodate the volume of acute illness. Hospitals activated their Hospital Incident Command System using action planning cycles and providing daily updates to staff. The Regional Medical Coordinating Center (RMCC) for the local hospital coalition of 24 hospitals acted as the liaison among hospitals and public health, EMS, and emergency management. Conference calls became daily, and a web-based information sharing system was also used to post guidelines, talking points, and other information and issues.

State-wide, a public health emergency was declared by the governor. This declaration allowed for the temporary adaptation of certain licensing, medical supervision, and credentialing regulations. More generous nurse-patient ratios were also allowed. Alternate care facilities were opened and emergency medical services (EMS) was allowed to transport patients directly to these centers. Hospital and EMS staffing requirements were waived by the governor. The Secretary of Health and Human Services issued a waiver of sanctions for noncompliance with certain Emergency Medical Treatment and Active Labor Act (EMTALA) requirements. The state Department of Health (DOH) engaged in aggressive risk communication to try to reduce patients with mild illness presenting to clinics or EDs, taking care that its messages were consistent with those provided by the Centers for Disease Control and Prevention (CDC).

As demand increased, hospital incident commanders convened their clinical care committees in order to prioritize available hospital resources toward patient care, as well as anticipating those resources that may soon be in short supply. The clinical care committees reviewed triage processes recommended by the state and assured that staff and policies were prepared in the event that ventilator triage was required.

The governor issued an executive order recognizing a "crisis standard of care" and providing legal protections to healthcare workers who were responding according to existing plans in a good-faith manner. The state DOH formally issued ventilator triage guidance as well as guidance on conservation of oxygen use that had been previously

recommended and approved as Clinical Process and a resource-sparing strategy by the SDMAC and guideline advisory group.

As conditions continued to deteriorate, some reports of public unrest were noted. Emotions ran high as wait times in private physician offices, ambulatory clinics, and hospital emergency departments lengthened. Community leaders issued messages via the local print, social, and broadcast media reiterating the extensive health and medical response planning that had already been conducted, as well as a description of those plans presently under consideration, including the possibility that some resources may become in short supply.

The situation was worsening. Institutional surge capacity was exceeded, especially by pediatric patients, with many hospitals having to move to crisis care with implementation of ICU triage criteria and ventilator reallocation. “Triage teams” were thus activated to assist with these clinical reallocation decisions by their institutional clinical care committees.

Palliative care areas were designated in several facilities and were set up in a hotel in one case. Slowly, intensive care admissions began to decline, and the triage team was disbanded, though the clinical care committee was required to supervise phased transition back through crisis care to contingency care.

After 7 weeks, the pandemic began to abate, and clinical care returned to conventional status, though the work of behavioral health practitioners had just begun. Patients with mental health needs continued to stress many elements of the healthcare delivery system and required significant resources. This continued to place strain on local emergency departments and caused a temporary surge as patients with emotional trauma sought care there. Alternate care sites that were once used as “flu centers” or to help decompress overwhelmed hospitals were now being used to provide mental health screening and therapeutics, when indicated. This aspect of the recovery phase would continue to tax healthcare workers and the public at large for many weeks, as many patients who had deferred their usual or chronic care during the pandemic now presented to clinics and emergency departments.

The state DOH and SDMAC prepared after-action reports that were reviewed by the broader guideline advisory group and a larger group of medical stakeholders prior to their release to the RMCCs and public. The guideline advisory group and state DOH also hosted hearings in each of the regions to allow public and provider input, as well as making an anonymous online system available for comments in order to improve response for future events.

Ethical Scenarios for Pandemic:

Crisis standards decision making involves which patients to prioritize.

Deciding who should have priority to receive limited resources will be one of the most difficult ethical dilemmas facing government officials and healthcare providers. As stated earlier, the rationing of resources should not be done at the bedside, but rather, before a crisis on a policy level in order to avoid, as much as possible, a heavy emotional burden on the bedside health care provider.

Examples:

Scenario 1: A 12-year-old patient and a 78-year-old patient have influenza. Both require mechanical ventilation but only one ventilator is available. They both have an 80% chance of survival if given the ventilator. Who should get the ventilator? Answer: The distribution is based on potential years of future life. Thus, the 12-year-old patient, medical status being equal, should be given preference.

Scenario 2: A 12-year-old patient and a 78-year-old patient have influenza. Both require mechanical ventilation but only one ventilator is available. The 12-year-old has a 20% and the 78-year-old has an 80% chance of survival if given the ventilator. Who should get the ventilator? Answer: The distribution is based on medical need and prognosis. The 78-year-old patient should be given the preference because the older patient has a high rate of likely survival but the younger patient has a very low rate.

Scenario 3: A 12-year-old patient and a 78-year-old patient have influenza. Both require mechanical ventilation but only one ventilator is available. They both have an 80% chance of survival if given the ventilator. The older patient is an infectious disease physician who has considerable experience treating patients with influenza and his research is in influenza vaccine development. Who should get the ventilator? Answer: The distribution is based on contribution during the current and similar crises. The infectious disease physician should receive the ventilator.

Scenario 4: A 12-year-old patient and a 78-year-old patient have influenza. Both require mechanical ventilation but only one ventilator is available. The younger has an 80% chance of survival if given the ventilator and the older has a 20% chance of survival. The older patient is a retired infectious disease physician whose research is in vaccine development. Who should get the ventilator? Answer: A randomized selection process would be an acceptable way of deciding which of these two patients received the ventilator. The randomized selection process should not be administered by the bedside physicians, but rather a removed administrative body.

Scenario 5: A 12-year-old patient and a 78-year-old patient have influenza. Both require mechanical ventilation but only one ventilator is available. They both have an 80% chance of survival if given the ventilator. There is a neonate currently ventilated that has a 20% chance of survival. Should the neonate or anyone else with a 20% chance of survival on a ventilator be removed from the ventilator in order to provide both patients with ventilators? Would this be considered murder or would there be a crisis standard of evaluating the situation? Who should physically remove the neonate from the ventilator? **Note: ask the legal committee regarding ventilator issue and murder**

EARTHQUAKE

Southern Illinois lies north of the New Madrid Seismic Zone. On a Tuesday in March, at approximately 0928, an earthquake struck the Southern Illinois region and was felt in the surrounding states of Missouri, Indiana, Kentucky, and Tennessee. The epicenter was located in Jackson County – Arkansas, IL with a main shock registered at 7.1 on the Richter scale. After shocks continued for one week following the initial shock and ranged in magnitude from 3.0-5.1.

The predominant area impacted by the earthquake included those counties south of Interstate 64 excluding the Metro East area. This affected region is served by approximately 19 hospitals. 13 of those healthcare organizations are critical access hospitals (CAHs) with 25 beds or less. The remaining six healthcare organizations have a total bed capacity of 615 beds. Jackson County and the four surrounding counties account for 7 hospitals with 458 beds in this Southern Illinois region. Damage to hospitals in this particular region required immediate evacuation due to actual concerns with structural damage to the buildings.

A major public university is located in Jackson County with nearly 18,000 students. Major structural damage occurred to the university with casualties and major injuries. In addition, a community college resides in the neighboring county to the east, with approximately 7,200 students. Damages and injuries also were sustained to this community college.

Loss of human life (casualties) and injuries resulted primarily as a result from collapsing walls, flying glass, and falling objects and debris. Entrapments were an immediate issue and fire/police rescues were initiated at the scene of building collapses. In addition, gas fires and gas leaks were a major concern and safety issue for residents and fire departments.

The primary shock within the region impacted building structures, resulted in collapse of bridges and interruption of roads including Interstates 24, 57, and 64. Amtrak services were also disrupted in the Jackson County region. In addition, a disruption of gas, electric, water, and telephone service occurred throughout the region.

Residents immediately began assessing injuries, loss, and potential safety hazards and began preparation for aftershocks that could impact their safety. Residents began seeking healthcare services, but were challenged to gain access to care due to the evacuated hospitals, damaged buildings, interrupted transit, and injuries to the healthcare workers.

The Governor declared a state of emergency for the Southern Illinois region and activated the National Guard. The Illinois Department of Public Health (IDPH) Office of Preparedness and Response was also notified. Local health departments within the epicenter area were impacted and unable to provide support. Emergency Medical Services, fire, and police were activated to assist with search and recovery; however, due to damage to the highways in the area, access to the epicenter was delayed. The Illinois Emergency Management Agency (IEMA) was immediately involved in the disaster. An emergency command post was established near the campus of Southern Illinois University Carbondale. Emergency communication with local health departments, hospitals, state agencies, and the public was initiated. Emergency radio services with all Illinois hospitals, health departments, and other State and local agencies was established with the Starcom21, MERCI, and other radio systems.

Ethical Scenarios for Earthquake:

Field Scenarios

The Epicenter of the earthquake occurred near the university setting in Jackson County. Mae Smith, Neely, and Schneider, are three 17-story towers, housing between 600 and 800 students each on the Southern Illinois University campus. These high-rise dorm structures have collapsed with hundreds of students trapped within the structure. Student injuries range from minor injuries to casualties. Ambulances, university, and local police, fire, and able healthcare workers respond to the scene at the dorms. Electrical lines are down and gas lines are ruptured.

Scenario 1: Police have instructed that no rescues can occur in the collapsed structures until the gas lines are sealed. Rescue workers hear cries for help from within the collapsed structures. First-line responders are torn as to whether they should enter the dorms prior to them being secured for safety.

If these first-line responders enter the dorms they potentially place themselves at risk in this hazardous environment. EMS providers should not put themselves at unnecessary risk. As part of their original 1978 Code of Ethics (revised 2013), EMS workers are not to deliberately place themselves in harm's way, for if they become injured or entrapped, resources would be needlessly spent in response to their injuries and moreover the skills and training of the individual would be no longer available to help others. Such caution follows the values of *solidarity, protection from harm, stewardship;* upholds the ethical objectives of *protect public safety and civil order,* and *security.* Thus, EMS personnel should only enter a collapsed structure when it is deemed safe to do so.

Scenario 2: An EMS worker recognizes his neighbor, who is a university student injured at the scene of the dorm collapse. The neighbor has been triaged at a lower level than other students with more serious injuries in the area. The neighbor begs the EMS worker to help and provide care for the injuries.

The EMS code of ethics (2013) states that there is an obligation "to provide services based on human need, with compassion and respect for human dignity, unrestricted by consideration of nationality, race, creed, color, or status." He or she also must "refuse participation in unethical procedures." In this case, the EMS worker must treat the neighbor the same as all others and cannot let a pre-existing connection or relationship interfere with the work, including patient prioritization. Consider the ethical commitments of striving for fairness, protecting against systematic unfairness, and using ethical strategies consistently as well as the substantive values of *solidarity, equity, and trust*. The principle of *efficacy* means that we have to use methods of distribution that support the goal of reducing morbidity and mortality. Thus, the EMS worker should assure the neighbor that everything is being done to help her and can make sure that the neighbor's condition has not degraded to a point that would lead to reclassification (which should be done by another person, if available, who does not have a personal connection to avoid conflicts of interest).

Scenario 3: An EMS worker is injured at the scene while trying to help rescue students trapped in the dorm collapse. The worker's partner witnesses the non-life threatening injury and

assesses that the worker will likely return to work. The partner must determine who he will assist first, the injured EMS worker or the students trapped in the collapse.

Based on the fact that the EMS worker is highly likely to return to work, she would receive prioritization in being evaluated and assessed. If treatment is necessary and she can return to duty quickly, then treatment would also give her priority. However, there is also a need to help the civilians. If time is not of the essence, then taking the EMS worker out with a group of students would be appropriate. If the students are ambulatory and unhurt, asking them to assist the EMS worker away from the damaged area would be appropriate, allowing the partner to continue efforts at the scene. The identified value of *reciprocity,* where those who face a disproportionate burden in helping to protect the public good should receive a priority if they are expected to return to duty, is the basis of these decisions. Such a return would also promote *protecting the public from harm*, and *solidarity* in line with protecting the population's health and enhancing community resilience.

Scenario 4: An EMS worker is injured at the scene while trying to help rescue students trapped in the dorm collapse. The worker's partner witnesses the injury. The EMS worker has a life-threatening injury and will not be able to return to work. The partner must determine who he will need to first assist, the injured EMS worker or the students trapped in the collapse.

Because the EMS worker has a life-threatening injury and is highly unlikely to return to work, he should receive prioritization in evaluation and stabilization (as per *reciprocity*) but not for treatment (in alignment with the values of *striving for fairness*). As per the Table 1 statement on Allocation of Resources and Services, first responders are prioritized differently than others only when they can return to work to continue to provide a response in the crisis (*duty to provide care, stewardship*).

Removing the EMS worker from the scene first is also supported in "protection of the public from harm." The EMS worker remaining on scene poses a danger and distraction to the efforts to save the students (as per the value of protecting the public from harm).

Scenario 5: A retired firefighter answers a call for skilled volunteers to fight a fire that occurred as a result of the earthquake. An unskilled person also appears on site and has a desire to help but does not have training to help appropriately. The person remains on site and tries to help. Five years later, they both develop lung cancer. Should their disease be compensated by the state?

The fireman should be considered for compensation because he was acting in a professional capacity for which he was trained (*values of trust, stewardship, and protecting the public from harm*). The unskilled person ought not to receive any compensation for his injuries as he was acting on his own accord and did not possess the appropriate skills to take part in the volunteer pool that was requested. Public health ethics would suggest an "upstream" approach. Volunteers who appear on scene should be directed to a volunteer coordinator who would assess individuals who "just showed up" and determined if they had the background and training to be of assistance. A community owes a measure of reciprocity to volunteers vetted and directed to work in an appropriate scope according to their skills.

Scenario 6: Emergency rescue workers are cleared to enter the dorms. Rescue workers find two victims on the first floor level. One is a 20-year old paraplegic student who has an electric

wheelchair for mobility. The victim's wheelchair is overturned and he has some debris covering him. The other victim is a 21-year old student trapped under structural beams. The emergency workers must determine which victim to rescue first.

Emergency rescue workers as in normal practice would first triage: Is either one of them a higher medical priority? If the patient in the wheelchair is stable and can exit the building once he is assisted to his wheelchair, then the trapped student would have the greater need for urgent assistance. If however, the trapped student's condition is severe enough that she cannot be saved with available resources, then it would be the duty of the responder to provide comfort in whatever form is available (pain medication, warmth) before accompanying the student with a disability out of the building. This fulfills the safety needs of both and the moral obligation of the responder. For all patients there is an ethical commitment to strive for fairness and protect against systematic unfairness. Allocations should not be made based on such conditions as pre-existing physical or mental disability or judgments about quality of life or social value. These foundational concepts all follow the value of *equity*. However, if all things are equal in regards to need, "Under conditions of scarcity, a fair random process (e.g. a randomized selection process) may still be necessary to fairly distribute both preventative and treatment resources to persons within the same level of prioritization." Thus, in this limited circumstance, all things being equal in their medical condition, it would be acceptable to use a random process to select between the patients.

Hospital Scenarios:

SIH Memorial Hospital of Carbondale is located near the epicenter of the earthquake. The hospital is staffed for 142 beds. The most critical and seriously injured are transported to this facility since it is the largest hospital facility in the region. The emergency department (ED), as well as the entire hospital, is overwhelmed with the critically injured patients. A morgue is established in an alternate site to accommodate the increasing number of casualties. University students from the dorms' collapse, as well as others who have sustained critical injuries are being brought to the ED. Disaster plans and triage have been initiated. Physicians, nurses, and healthcare providers are providing care to those injured.

Scenario 1: A Family Medicine physician is assessing patients and assisting with triage for patients entering the ED. A limited number of operating rooms (ORs), intensive care unit (ICU) beds, and ventilators are available. Several of the college students have obviously lethal injuries. Being the father of college-aged students, the Family Medicine physician believes that university students should receive priority for care due to their age and potential for life expectancy.

Some questions to consider: Should the university students and minors receive priority of care for their injuries over older adults? Which patients should receive these limited resources? Should those patients who are most critical and who have a high probability of death receive treatment other than palliation?

The substantive values in these situations are *solidarity, proportionality, trust, and stewardship*. One must consider medical need and urgency of treatment and adequacy of available resources to meet the need. After triage,–those in critical condition with non-life sustaining

injuries, regardless of whether advanced supportive therapies are used, do not receive aggressive treatment. The allocation of resources ethical framework states “generally, de-prioritize persons unlikely to benefit from the resource.” People with terminal injuries should be provided with comfort care, ideally through palliative or hospice services if available. Patients who are injured but have a high likelihood of survival if treated, and if sufficient resources (materials and personnel) are available to administer those treatments, would receive prioritized treatment. Age should not be a factor.

Scenario 2: An obstetric nurse (OB) has reported to the ED to provide care and has been assigned to a vented patient. The OB nurse has no training in ventilator care and identifies that to staff. If the OB refuses the vented patient, and there are no other providers to care for this patient, does the OB nurse accept the assignment of providing care for this patient?

The OB nurse could accept the patient with the stipulation that one of the ED or ICU nurses or physicians/APNs will assist if there are issues ventilator related issues with the patient. Given that the nurse has medical training and can conduct a general medical assessment on any patient, identifies that they are clinically qualified to a greater degree than a non-clinical volunteer. This decision follows from the principles of *protecting the public from harm* (the nurse acknowledging she would need assistance with the equipment in use) *solidarity* and *duty to provide care* (using all hands available to provide care), and *stewardship* (knowing and voicing one’s limits).

Scenario 3: A 22 year old university student is brought to the ED with a possible liver laceration. The patient is bleeding within the abdomen. Surgery would be extensive with a large volume of blood products needed to save this patient. The patient may also need a liver transplant to survive. What should be the ED physician’s decision regarding the plan of treatment/care?

Due to life threatening injuries requiring an extensive amount of resources for treatment, this 22-year-old university student should be provided with palliative care. Stewardship requires a distribution of resources to provide care for the public in a proportional manner. The amount of resources that would be required to save this one person would put a number of other people at risk of permanent morbidity and mortality (thus violating solidarity).

Scenario 4: Two ambulances simultaneously arrive at the ED. Ambulance number 1 holds a 68-year-old faculty member who was dining at the dorm and who is believed to require a craniotomy or burr holes to alleviate pressure building up after a beam fell on his head. Ambulance number 2 brings a 19-year-old student with Down’s syndrome who requires immediate surgery to stop suspected internal bleeding. Only a single OR and surgeon are available. Without immediate care both patients will die, but with care both have a chance to survive.

Under notions of equity, discrimination should not occur due to a pre-existing condition. When medical needs are equal with the same level of prioritization, a randomized selection process may be appropriate or “under limited circumstances, when medical need is equivalent, it may be acceptable to further reallocate by other criteria, including potential years of survival.” Since the 19-year-old student has more potential years of life than the 68 year old, the student should be treated first and the faculty member provided with palliative care.