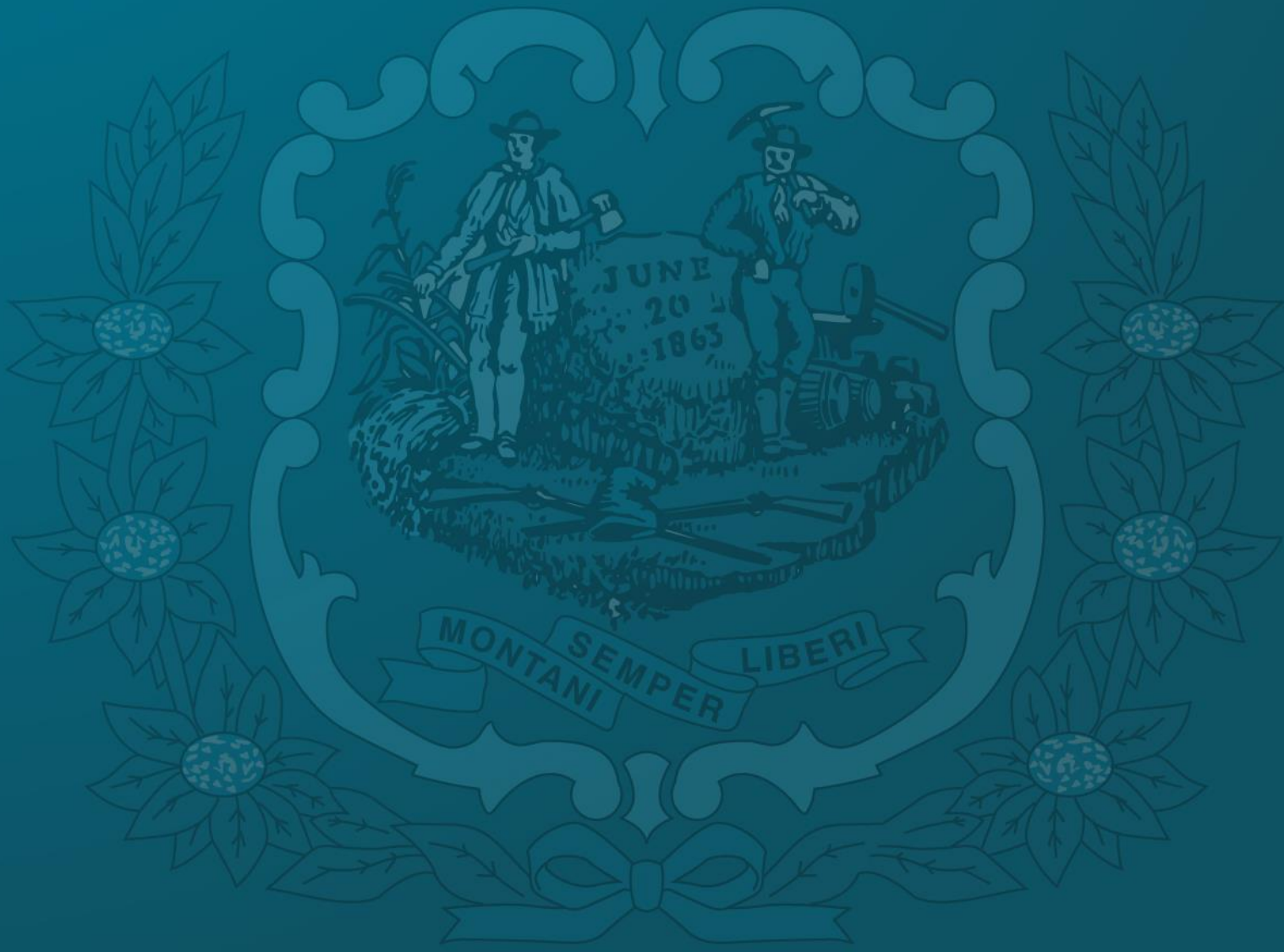
A FRAMEWORK FOR MANAGING THE 2020 COVID-19 PANDEMIC RESPONSE

AND IMPLEMENTING CRISIS STANDARDS OF CARE



WEST VIRGINIA
HOSPITAL ASSOCIATION

A Framework for Managing the 2020 COVID-19 Pandemic Response and Implementing Crisis Standards of Care
West Virginia Hospital Association

DECEMBER 2020 | VERSION 2.0

Table of Contents

OVERVIEW

This document has been developed to support West Virginia hospitals and clinicians during the 2020 COVID-19 pandemic. **However, it is important to note this framework may be utilized anytime hospital and health systems are so overwhelmed by a pervasive or catastrophic public health event it is impossible for it to provide the normal, or standard, level of care.** The need for established guidance at this critical time necessitated the expedited development of a framework for West Virginia hospitals. This guidance is based on other well-established plans, such as the Utah Crisis Standards of Care (2019) and the Missouri Hospital Association's Framework for Managing the 2020 COVID-19 Pandemic and Implementing Crisis Standards of Care (2020), to provide an ethical foundation for system-level and regional decisions to determine most appropriate settings for care and allocation of scarce resources.[i xv]

Existing models describe a continuum during emergency events in which hospitals move from conventional to contingent to crisis operations. During the latter phase, also known as Crisis Standards of Care (CSC), this guidance only should be used when medical care must shift from a solely patient-centric approach to allocating scarce resources to promote achieving the greater societal good of survival, safety and security for the population as a whole. *This is not intended to be an exact or mandated decision support algorithm.*

Research, emerging practices and other surge management resources have been utilized and are referenced throughout the document. ***This guidance is based on the Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response.***[ii]

Purpose

The Institute of Medicine (IOM) defines Crisis Standards of Care as existing when a public health event or natural disaster substantially impacts normal health care operations, and the normal standard of care cannot be maintained. This guidance should only be used during the current COVID-19 pandemic to maximize survival for the overall patient population and minimize adverse outcomes.

During crisis, the following circumstances are likely to exist:

- Capacity, even that expanded during surge (also referred to as "contingency"), will not be sufficient to meet ongoing care demands.
- Critical resources are unavailable and must be re-allocated to help as many patients as possible.
- Staffing levels are critically low, and staff present may be operating outside the normal scope of practice.
- Diagnostic tools may be inaccessible, leaving treatment decisions to best clinical judgment.

The decision to employ CSC involves recognizing that conventional and contingency standards cannot be maintained to ensure the survival, safety and security of the population at large.

KEY DEFINITIONS

Conventional Capacity: The spaces, staff, and supplies used are consistent with daily practices within the institution. These spaces and practices are used during a major mass casualty incident that triggers activation of the facility emergency operations plan. [ii] [iii]

Contingency Capacity: The spaces, staff and supplies used are not consistent with daily practices but provide care that is functionally equivalent to usual patient care. These spaces or practices may be used temporality during a major mass casualty incident or on a more substantive basis during a disaster (when the demands of the incident exceed community resources). [ii] [iii]

Crisis Capacity: Adaptive spaces, staff and supplies are not consistent with usual standards of care but provide sufficient care in the context of a catastrophic disaster (i.e. provide the best possible care to patients given the circumstances and resources available). Crisis capacity activation constitutes a significant adjustment to standards of care. [ii] [iii]

Surge: Ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community.[iv] [iii]

Offloading: Offloading is a way to rapidly create inpatient surge capacity by identifying hospitalized patients who do not require major medical assistance for at least 96 hours and who only have a small risk for serious complications resulting from early discharge. [v]

Trigger Point: The juncture where a decision must be made based on resource availability, requiring adaptations to how health care is delivered along the capacity continuum. [ii] [iii]

CSC Trigger Point: The point at which scarce resources require a transition from contingency care to CSC. This is the point at which resource allocation focuses on the public at large, emphasizing population health rather than individual outcomes. [vi]

THE CRISIS STANDARDS OF CARE FRAMEWORK

Hospital Continuum of Care Model SITUATION	Conventional	Contingency	Crisis
SURGE STATUS	Hospitals utilize normal bed capacity. Occasional and temporary surges of demand may occur that are temporary and may incur longer wait times for non-critical care as hospitals, ICUs, and emergency departments temporarily reach capacity.	Hospitals have surged beyond maximum bed capacity. Emergency Operations Plans are in effect. Elective procedures delayed. Hospitals may be adding patients to occupied hospital rooms and non-patient care areas. Community health care facilities may be requested to surge. Alternate care sites may be opened.	Expanded capacity is still not sufficient to meet ongoing demand for care. Some patients needing care cannot be admitted to hospitals and instead will be sent home or to alternate care sites. Hospitals are adding patients to occupied hospital rooms and non-patient care areas. Community health care facilities are operating beyond normal scope of practice.
RESOURCE LEVEL	Occasional, limited resource shortages may occur, typically of non-critical supplies or medications with substitution as the most common resource sparing strategy.	Some resources are becoming scarce. Attempts at conservation, reuse, adaptation, and substitution may be performed.	Some or even many critical resources are unavailable, potentially including hospital beds, ventilators, and medications. Critical resources are re-allocated to help as many patients as possible.
STAFF	Usual staffing. Hospital staff absenteeism is not a large problem.	Staff extension (increased patient/provider ratios, expanded scope of practice). Hospital staff absenteeism may be a problem.	Staffing levels at critical shortage. Staff are operating outside normal scope of practice and greatly increased patient/provider ratios. Hospital staff absenteeism may be greater than 30%.

Source: Utah Crisis Standards of Care Guidelines, Version 2 June 2018; based on the IOM Crisis Standards of Care Framework, 2012

Principles for Ethical Decision Making

CSC assumes plans for palliative or comfort care are in place. CSC strives to preserve equity and fairness and is intended to minimize adverse outcomes that would otherwise occur due to the crisis situation. CSC ensures that decisions are made in accordance with the following ethical principles:[vii] [viii]

Fairness – processes are equitable for all patients
Respect – information is shared truthfully and candidly; honors patient's autonomy, dignity and privacy
Stewardship – preserving the effectiveness and impact of available resources
Transparency – providing open access to available information and the decision-making process
Justice – decisions are made without regard for social positions or relationships
Proportionality – decisions are proportional to the scope and severity of the circumstances
Accountability – health care workers act responsibly, in accordance with professional standards

PLANNING

Hospitals are encouraged to develop plans for moving from Conventional to Contingency to Crisis Capacity. During a disaster or declared emergency, the goal is to remain in Contingency status to the extent possible and avoid moving to CSC. Strategies for remaining in Contingency Capacity may include:

- Canceling elective procedures and surgeries to increase capacity.[ix]
- Early discharge or transfer of appropriate patients to home or less acute levels of care.
- Transferring less acute patients from medical surgical units to alternate care sites, with the assistance of case managers and discharge planners.
- Transferring post-acute and behavioral health patients from acute settings into other appropriate settings.
- Expanding critical care capacity into areas such as post-anesthesia care units, surgical suites, outpatient care units.
- Expanding patient care areas to include hallways and private rooms.
- Expediting admissions to move patients from the emergency department to patient care units.
- EMTALA compliant screening of individuals seeking care, in coordination with EMS or other medical direction, to determine the most appropriate setting for care including an established alternate care site for less acute patients.

Planning Assumptions

Various models depicting the spread and timing of COVID-19 estimate significant resource shortages, specifically hospital beds for acutely and critically ill patients.

Because of the anticipated severe shortage of space, staff and supplies, the following planning assumptions are established.

- Decision-making is based on the ethical principles outlined above.
- Decisions need to be made, based on surge, capacity and capability, at the institutional, system and regional levels.
- Public health, emergency management, emergency medical services, health care systems and clinicians must coordinate plans and implementation to assure maximum benefit to patient populations during a public health crisis.
- Clinical efficiency, such as tele-services, is important but will not provide sufficient relief of surge demand.
- Patient movement and locations must be planned and implemented at the beginning of a surge in patients that threaten conventional or contingency levels of care.
- Smaller hospitals should retain their critical resources such as inventoried ventilators as patients may require intensive care in smaller facilities.
- Patients from or requiring post-acute services must be provided sufficient care in settings outside of the acute care systems to maximize capacity for acute and critically ill patients.
- Critical resources, such as stockpiled ventilators, should be distributed among facilities caring for the most critically ill in acute care and long-term acute care facilities with intensive care capabilities and capacity.
- Surge and crisis activities must accommodate all patients with life-threatening illnesses or injuries – it is not a response for allocating resources among only COVID-19 patients.
- The necessary legal authority for CSC is required to be ethically and optimally implemented with public transparency.
- Clearly developed, transparent indicators, processes and lines of authority must be used.
- Evidence-based clinical processes and operations are to be employed.

Planning assumptions specific for the COVID-19 pandemic include the following:

- Staffing ratios and roles will be needed to extend and maximize care.
- Staff availability will be reduced due to COVID-19 exposure and illness, quarantine, exhaustion and personal decisions to not report.
- There will be insufficient beds for all patients needing inpatient and especially critical care.
- There is at any given time insufficient personal protective equipment for health care workers.
- There will not be enough ventilators to treat all patients suffering from respiratory failure.
- The majority of infected patients can be treated at less acute levels of care or at home.

The Sequential Organ Failure Assessment

The SOFA or Modified SOFA are validated and accepted tools used to determine prioritization and allocation of donated organs. Several established plans incorporate the MSOFA into the decision-making matrix, but do not rely on it alone. The tools have been studied as a guide for making critical patient-level decisions during a public health crisis. Based on limited research two themes have emerged.[x]

- In the 2009 Swine flu pandemic, the SOFA tool was found to have far less predictive value for viral pneumonias than assumed and therefore is not recommended as a tool to exclude patients from receiving specific resources, such as ventilators. [vii]
- The MSOFA was determined to be helpful in placing patients in the most appropriate setting of care such as critical care or medical surgical units during CSC. [xi]

WEST VIRGINIA COVID-19 PLAN FOR PATIENT CARE SETTINGS

Situational Awareness and Regional Activation

Models based on limited data and assumptions are the current tool to estimate attack rate, effect of policies such as social distancing, onset and duration of peak and hospitalizations. As more data is available, models will become more precise and real-time data will be used for decision making.

In West Virginia the statewide bed and services tracking system, *Continuum*, is used by EMS providers and hospitals. All hospitals in the state update their status by an appointed time daily. In emergencies, the system can generate more frequent specialized or custom information requests. *Continuum* is used by the state Health Command Emergency Operations Center for crisis resource coordination and assistance. The West Virginia Hospital Association (WVHA) collects daily capacity, supply, and staffing data from hospitals, which is reported directly to the U.S. Department of Health and Human Services, the White House, and the West Virginia Department of Health and Human Resources (WVDHHR). This is the most comprehensive source for West Virginia hospital status related to surge capacity and currently is and will be the tool used to track statewide hospital capacity and for operational decision making. Alternate Care Sites (ACS) that are housed and operated on campus or managed by a hospital at an off-campus location, will include the patients under their care in the daily data collection submitted by the hospital.

In addition to the *Continuum* system for daily and emergency status data, the web based *LiveProcess* system is used by hospitals and healthcare response partners for real time situational awareness and resource coordination. This emergency management system is used for regional coordination by West Virginia's two coalitions: Healthcare Coalition North and Healthcare Coalition South. The coalition and regional structure facilitate crisis standards planning among members and is reinforced through Healthcare Coalition participation, regional response plans, and annual coalition exercises that include surge capacity testing. This document will be posted on the *LiveProcess* system as a framework to further support health care providers and health care coalitions with guidance from state-level leaders in the decision to transition from conventional to crisis care.

Guidance for Activating Trigger Points

The transition from Conventional to Contingency to Crisis Standards of Care is based on limitations of space, staff or supplies. The CSC trigger point occurs when the hospital's essential functions are compromised despite implementation of capacity optimization measures. Likely scenarios are the number of patients exceed the number of available beds, critical resources are in dangerously low supply or unavailable, and staffing levels are critically low. All possible means to extend resources within the traditional health care system have been exhausted. The following provide examples of capacity triggers anticipated for COVID-19 surge that will necessitate redirection of patients to other settings for care and monitoring.

- Sustained community spread and case counts indicate a regional health care system is reaching the onset of a peak period of transmission.
- Critical and intensive care beds have been expanded and are nearing 100 percent use within a service area or region.
- Established or alternate systems for negative air flow rooms are nearing 100 percent use within a service area or region.
- Staffing shortages are such that sufficient standards of care cannot be maintained.
- Clinic and emergency department volumes are exhausting space, supplies and staff needed for critical patients.

Hospitals

Utilizing the CDC Hospital Preparedness Assessment Tool is an important first step in preparing for a COVID-19 patient surge. Strategies to maximize capacity for patients requiring hospitalization for high acuity and critical care services are differentiated by metropolitan and rural geography.

- WV hospitals and health systems in **metropolitan areas** will convert and expand capacity to the extent possible to staff and provide care for acutely and critically ill patients within their existing hospitals and campuses. All understand this may not be adequate and allocation of scarce resources may become a reality.
  - Conversion of specialty units such as post-anesthesia units, outpatient and surgical areas into critical care areas.
  - Conversion of medical-surgical units to high-acuity step-down units.
  - Expansion into non-patient care areas based on supplies, staff and functionality.

- WV hospitals in **rural areas**, including critical access hospitals, will convert and expand to the extent possible to staff and provide care for acutely, critically ill and less acute patients within their existing hospitals and campuses. Rural facilities with additional capacity should be considered, when feasible, a setting for caring for lower-acuity and post-acute patients from metropolitan areas.
  - Rural hospitals without negative air flow capability should consider accepting and expanding

capacity for non-COVID-19 patients.
  - In critical situations, COVID-19 patients should be segregated by space and staff from non-COVID-19 patients.

- **Hospitals throughout West Virginia** are encouraged to plan regionally and make available collective resources to further expand hospital capacity. For example,
  - Pediatric hospitals may have lower census and the ability to accept pediatric and young adult patients from general acute care hospitals to create more capacity in those hospitals caring for acuity and critically ill.
  - Psychiatric and free-standing hospitals serving specific populations also may have capacity and ability to accept lower acuity patients.

Hospital Staffing

Staffing during the COVID-19 pandemic will require adaptation as crisis levels of care are realized. Researchers outline surge priority planning and critical care staffing options and include the following.[xii]

- Internal resource optimization including advance practice nurses, nurses with prior critical care experience, procedural nurses.
- Internal staff to provide support to front line workers including psychiatric counselors and social workers.
- Staff in ambulatory settings with recent critical care experience.
- Staff in medical practices and urgent care settings not currently seeing patients.
- Telemedicine.
- Changed staffing models such as team-based care.

One of the greatest challenges in managing the COVID-19 response will likely be the supply of staff and the competency level of the staff available. The hospital will see the acuity of patients rise dramatically with the increased number of patients requiring ventilatory assistance and other specialized care.

Leaders in preparedness offer these key considerations in the provision of staffing: [vii]:

- **Childcare, Adult Care, Petcare** – in-home day care or small group care may have to be arranged. School closures are widespread leaving young children unattended. Hospitals may consider flexibilities like staffing opposite shifts for staff who agree to alternate providing care for each other's parents, pets and children; however, plans must consider the risk of transmission attendant to such arrangements.
- **Staff safety** – address competency with just in time training of the PPE provided and the care techniques practiced.
- **Housing** – providers at risk of acquiring infection may request alternate housing to avoid exposing family members – on and off-campus options may be needed.
- **Communication** – staff must be informed about contingency and crisis practices being implemented and the reasons for these decisions. It is important to consider providing the same information in a variety of ways and multiple times as health care staff are in a fight or flight situation. When guidelines and processes change daily, overcommunication is a good practice.
- **Shift type/length** – shifts should be varied to avoid fatigue and burnout.
- **Support, information, and training** – Medical assistants, environmental services, transporters, and others may have equal or greater need compared to physicians, advanced practice providers, and nursing staff.

Clinical staff in administrative positions should return to clinical care as much as possible. Staff should practice "at the top of their license" (i.e., respiratory therapy should focus on managing ventilators and eliminate most other responsibilities). Nursing staff should concentrate on IV medication administration and assessment, deferring basic personal care, feeding, etc., to health care assistants, vetted volunteers, family

members, and other personnel. Flexible staffing and patient assignment models may be needed to allocate key personnel to the most pressing patient needs.[xii]

Tele-Services

CMS, along with most third-party payors, have relaxed and/or waived many restrictions around the provision of telemedicine services for the COVID-19 pandemic. Telemedicine services are highly recommended in cases where patients are medically stable and able to quarantine in their home setting. Telemedicine services also are recommended for all other patients to promote decreased exposure, particularly for those in the at-risk category. Telemedicine may be provided through tele-monitoring, virtual visit, e-visit or phone call all with varying options for the type of medical care allowed. Patients must consent to telemedicine services and this must be documented in the patient's medical record. Patients and family members should receive guidance and education on telemedicine options and how to use the chosen option. ***For further telehealth and virtual care guidance please click here.***

Hospital Visitation Policies

Hospitals are required as a condition of participation in the Medicare and Medicaid programs to have policies and procedures regarding the visitation rights of patients, including those setting forth any clinically necessary or reasonable restriction or limitation the hospital may need to place on such rights. The right of a patient to have visitors may be limited or restricted when visitation would interfere with the care of the patient and/or the care of other patients. The regulation permits hospitals some flexibility, so that health care professionals may exercise their best clinical judgment when determining when visitation is, and is not, appropriate. Best clinical judgment takes into account all aspects of patient health and safety, including the benefits of visitation on a patient's care as well as potential negative impacts that visitors may have on other patients in the hospital.

The Centers for Medicare & Medicaid Services issued a waiver of Patient Rights under 42 CFR §482.13 only for hospitals that are considered to be impacted by a widespread outbreak of COVID-19, defined as those in a state with 51 or more confirmed cases as updated on the CDC website. CMS has waived §482.13(h) related to patient visitation, including the requirement to have written policies and procedures on visitation of patients who are in COVID-19 isolation and quarantine processes. While a written policy and procedure is not required, hospitals should prepare guidance for staff, visitors and authorized contractors on screening procedures, movement within the hospital and safety measures. ***The West Virginia Hospital Association has developed recommendations for Visitor Restrictions during the COVID-19 pandemic.***[xiii xiv]

Hospital Transfer Policies (Updated December 2020)

Hospitals are required to obtain a patient's consent to transfer the patient to a different facility, including when the hospital is unable to provide the patient an appropriate level of care due to limited resources caused by the COVID-19 pandemic. Challenges may arise when the hospital does not have the capability or capacity to provide the necessary treatment but the patient refuses to agree to a transfer from the hospital or, in the case of an incapacitated patient, no surrogate can be located. In this situation, it is important to review any current CMS Waivers in place and develop a transfer protocol in compliance with all active regulations.

In addition, other local facilities will likely be in the similar overloaded situation and may not be able to accept transfers. In the normal course of care delivery, many hospitals do not regularly care for certain populations (trauma or pediatric patients) and would normally transfer such patients out of their facility to a higher level of care. A disaster situation may necessitate keeping patients not normally cared for at a specific facility, despite the high level of stress this would place on any system, or transferring a patient to another facility based on the health care professionals best clinical judgment when determining a transfer is necessary to support the care of other patients. Planning for potential situations including the need to transfer patients or retain patients where providers would have to practice outside their normal scope and comfort area

includes an assessment of hospital and staff capabilities and providing guidance for surge situations. Such guidance should include a robust plan of how, where and what a surge would entail, what would be expected of staff members as well as potentially augmenting their capabilities through "just in time" training assets.

Alternate Care Sites (Updated December 2020)

Statewide plans to create additional patient care capacity are rapidly progressing and evolving. A general summary of current planning is provided in this document. More detailed information will continue to be provided as available.

Plans for alternate care sites (ACS) have been established to reduce the surge of patients into the hospitals. These temporary facilities will be managed and staffed separately from the traditional health care system. ACS will be established and located across West Virginia based on resource need and availability.

Settings for Alternate Care Sites

Early in the West Virginia COVID Response, several settings for ACS were evaluated by a FEMA and WV National Guard team that assessed safety codes, availability, functionality, accessibility, cost to establish, supplies, location, parking and time required to accept patients. In addition to considering shuttered hospitals and clinic facilities, hotels and college campuses were considered as possible second tier sites. To facilitate being prepared for the expected increases and the need for additional acute care beds and equipment, daily coordination calls have been held by FEMA that included WV DHHR, WV National Guard, and other involved organizations including the West Virginia Hospital Association. The strategic approach to identifying potential sites includes having additional surge capacity for areas seeing the highest rates of positive cases. Special consideration has been given to long term care patients that have been hospitalized. Several Long-Term Care facilities have been provided direct FEMA assistance to increase acute care capacity as a measure to keep fragile patients from having to be transported and transferred to other facilities as an alternative to an Alternate Care Site facility.

FEMA has facilitated a specific ACS Staffing team to address staffing needs at identified Alternate Care Sites and other at-capacity health care facilities. The team works to develop a process linked to the WV DHHR volunteer management program WV REDI, and a network of information sharing among medical associations such as the State Medical Association, WV Hospital Association, WV Nurses Association, WV Healthcare Association, and other like groups to coordinate messages to members, and facilitate identifying available clinical staff and workers.

As the COVID-19 Response progressed, the decision was made by the WV DHHR and National Guard to concentrate ACS planning to two locations, St. Francis Hospital in Charleston, WV and recently closed Fairmont General Hospital in Fairmont, WV. Since, the Department of Health and Human Resources (DHHR) has designated Fairmont Medical Center (FMC) as the Coronavirus (COVID+) surge facility available for transfers from facilities designated by DHHR as an institution in crisis. FMC is staffed to care for lower acuity and post-acute transfers awaiting a disposition to their next level of care (i.e. nursing home placement). FMC is not equipped to handle acutely ill (and/or Step-Down/ICU) COVID+ patients. Those patients should be continue to be admitted to their current hospital or transferred to a higher level of care facility.

An outcome of the state lead planning with federal support, West Virginia has advanced its ability to evaluate, stand up, and operationalize Alternate Care Sites if needed. This process is linked closely with the availability of resources from federal sources such as the National Stockpile and other federal allocation sources, in addition to West Virginia healthcare coordination and sharing of regional resources.

Triage Decision-making

When alternative care sites or redirecting patients to other facilities is not possible or limited, difficult decisions must be made to address excess demand for available resources. When the hospital reaches crisis capacity, the following must be implemented.

- Triage plans to maximize the number of patients saved.
- Cancellation of all non-essential duties; reassignment of personnel to critical care functions.
- If possible, move stable patients not yet ready for discharge to identified alternate care sites.
- Ensure quality palliative or comfort care, along with symptom management, is available to all patients, either at the hospital or an alternative care site.

When possible, the hospital should designate a triage team to be responsible for determining who will receive critical care, including allocation of limited resources. Triage teams should be staffed with critical and acute care specialists experienced in managing trauma and critically ill patients. The team should include physicians and nurses and, where possible, individuals with experience in disaster or emergency planning. If the facility is small, it may be necessary to identify a single decision-maker to make triage and allocation decisions. Ideally, this individual will possess the emergency department or critical care skills described above. The individual(s) making allocation decisions should not be involved in the care of the patients being triaged.

Transparent decision making will be important, especially in smaller facilities or those in smaller communities. In some instances, the physician making triage decisions may be familiar with the patient about whom allocation decisions are made. Or, an individual well known to the community may be subject to difficult allocation decisions, leading to media interest in the decision-making process. The ethical principles described above must be wholly incorporated into triage decisions and transparently communicated to the public to distill fears that patient lives are not appropriately valued by a particular facility.

Following a public health emergency in which it is necessary to implement CSC, hospitals should ensure adequate psychological support for triage decision-makers, who may experience long-term effects from making difficult, though ethical, decisions. Clinicians are trained using principles of a "duty of care" to maximize outcomes for individual patients, not to achieve the greatest good for the greatest number. Crisis standards requires a shift from prioritizing individual patient-centered to public-centered survival goals, challenging the training, professional norms and expectations of clinicians. This can lead to moral stress, feelings of guilt and potential psychological distress. Clinicians engaged in allocation decisions may be at high risk for post-traumatic stress disorder. Mental health services should be made available as quickly as possible to support clinicians engaged in triage decisions.

Criteria for Resource Allocation Decisions

Resource allocation criteria necessarily involve scoring patients at triage to prioritize those more likely to survive with intensive care treatment. In the most simplistic terms, triage involves determining (1) who is unlikely to survive even with critical interventions; (2) who is likely to survive without critical care; and (3) who is likely to survive if given critical care resources. The allocation criteria should focus on the latter patients. Those with little chance for survival regardless of circumstances are entitled to and must receive appropriate palliative care. Those likely to survive without significant intervention should be diverted to alternate care sites. To promote survival of the maximum number of patients, the latter will be considered for intensive treatment.

Due to the myriad ethical considerations in making resource allocation decisions, the WVHA is not

advocating a "one size fits all approach." **Examples of resources relating to the allocation of scarce critical care resources can be found in APPENDIX A of this document.** The WVHA encourages each hospital to thoroughly examine and assess the criteria it establishes so that resource allocation decisions are true to its mission, values and operations. Each hospital using this guidance is encouraged to involve key members of its critical care staff and ethics committee in considering and ultimately accepting a model for allocation resources during CSC.

The Ethics of Inclusion and Exclusion Criteria

Ethical considerations will arise with respect to inclusion and exclusion criteria or tie-breaking factors based on situational, as opposed to non-diagnostic, factors. Common criteria include age, the presence of other diseases or congenital conditions, first-come, first-served, preservation of health care workers or a lottery approach. Each has ethical ramifications.

Age is perhaps the most debated allocation criteria. The Department of Health and Human Services suggests that in the abstract, life-cycle considerations generally support prioritizing younger patients over older ones.

Please note: When all other factors are equal, age may be an ethical proxy for decision-making, so long as comorbidities, overall health and likelihood of survival are taken into account. While age may be a useful proxy for health status, it requires consideration of additional, subjective judgments about the patient's likelihood of survival – i.e., a physically fit, healthy 70-year-old patient who runs marathons might warrant a ventilator over a 55-year- old chronic smoker.

It is commonly accepted that the presence of certain conditions likely to lead to imminent or short-term mortality are acceptable allocation criteria. These include cardiac arrest for which ACLS is unsuccessful, massive trauma to the organs or brain, or intractable shock. During a public health emergency, hospitals may use the presence of other health conditions to score patients but must do so with caution. When developing such exclusion criteria, clinicians should be mindful that it is impossible to consider every medical condition during the planning phase, leaving clinicians vulnerable to subjective decisions during crisis situations. Additionally, it is likely that triage decision-makers will not have access to information about a particular patient's exclusion criteria, leading to inadvertent, but inequitable decisions.

White and Halpern propose prioritizing patients engaged in the public health emergency response, such as health care workers, first responders, government officials or law enforcement. An ethical argument can be made that the prospective recovery of such individuals will have larger societal benefit, especially if there is recurrence of the illness, as seen in other countries. Additionally, numerous health care workers on the front line of the COVID-19 response may be exposed to the disease due to scarcity of PPE; therefore, it promotes fairness to prioritize those who have been placed in harm's way serving others. Using this method requires consideration of how to prioritize health care workers and responders along the continuum of care, as all play a role in promoting public safety and health. Because triage decision makers may be familiar with the patients about whom such decisions are made, plans using these criteria must include clear standards to avoid subjective motives to inform the process.

Final considerations for tie-breaking criteria include a lottery approach versus treating those that arrive first. From an ethical standpoint, a lottery system seemingly promotes fairness in that all patients have an equally random chance to receive scarce resources. An obvious shortfall to using a lottery system is that it may be difficult to administer in a fluid situation, in which the level and timing of patient surge is unknown. While a first-come/first-served approach also seems to promote fairness and is easy to apply, it does not account for the fact that those arriving first may have better situational awareness or greater resources, thus disadvantaging those with lower socio-economic status.

It is likely that a hospital's CSC plan will necessarily include subjective criteria based on clinical judgment or other non-diagnostic information, if only to break ties between patients competing for scarce resources. Due

to the potential for bias in applying such criteria, clinical and ethical committees must consider the possible inequities inherent in such criteria and incorporate the Ethical Principles into their use.

Palliative Care

The Ethical Principles that underpin CSC require that palliative care resources be made available for the duration of the disaster or emergency. It is critical that palliative care be provided to individuals who are denied resources to lessen their pain and suffering and adhere to compassionate standards of the health care industry. To the extent possible, patients should be provided care to alleviate their symptoms, reduce pain and provide emotional support to patients and their family members.

During the COVID-19 pandemic, it is likely that home health and hospice providers will be similarly overwhelmed as hospitals discharge patients to re-allocate staff, space and supplies to individuals needing critical care. Therefore, hospitals also should plan for methods of caring for patients within the four walls of the facility while providing palliative or comfort care. Home health and hospice staff should be considered in these efforts.

Alternatively, if the hospital discharges such patients to home, it should consider the information and supplies needed by family members caring for their loved ones. Many hospices offer comfort kits and information sheets to families caring for members at the end of their life. Home health and hospice providers are a valuable resource and should be engaged by hospitals while developing CSC plans to ensure palliative care is adequately addressed.

Legal Framework

CSC involves an altered standard of care. It is a different, but medically appropriate standard based on the emergency circumstances and limited resources available to the hospital, in which the patient-centered focus is secondary to the greater public good. CSC should be applied only when the CSC Trigger Point is met. Health care providers who implement CSC should not be held liable for actions taken in good faith and in accordance with accepted CSC policies and guidelines, except in cases of gross negligence or willful misconduct.

To assure maximum liability protection, a hospital should document the event(s) and circumstances leading to the CSC Trigger Point and formally invoke its CSC Plan. Resource allocation decisions must be made in accordance with the ethical principles and assessment criteria set forth in the plan and carefully documented. Documentation should be focused on patient care as opposed to that necessary for reimbursement.

APPENDIX

Appendix A: Allocation of Scarce Critical Care Resources During a Public Health Emergency

White & Halpern

This model for allocation of scarce resources is based on a decade of research and community engagement by the authors and specifically was developed to provide practical and clear guidance for clinicians during the COVID-19 pandemic. It combines clinical assessment tools and predictive measures to score all critically ill patients, not just those with symptoms of COVID-19. Under this model, patients are provided immediate stabilization, and, if necessary, temporary ventilator support to allow the triage decision-maker to adequately assess the patient's likelihood of survival with or without further intervention. The *White and Halpern* model uses a Multi-Principal Strategy (MPS), which couples the Sequential Organ Failure Assessment (SOFA) score to assess patients' prognosis for hospital survival with an assessment of comorbidities and prognosis for long term survival. Using these principles, patients receive a total priority score to guide resource allocation decisions. Patient priority scores are grouped into three color-coded levels. Resources are prioritized by group, with the lowest scores given priority.

The efficacy and currency of this model support its effectiveness; however, situations may occur when "ties" must be determined among patients with the same priority scores. *White and Halpern* posit that age should be the first factor used to ensure individuals are given equal opportunity to experience all stages of life. When rationing health care resources, contemplating the long-term enjoyment of the received benefit often plays a role. However, other ethicists argue that the correlation between chronological and biological age is insufficient to support such decisions. Hospitals wishing to adopt this framework should ensure that ethical discussions occur regarding tie-breaking decisions, especially those using age as a proxy, and clear guidance is provided to triage decision makers when faced with such choices.

White and Halpern also suggest tiebreaker consideration be given to individuals essential to supporting the COVID-19 response. Health care workers serve a critical function during and after the immediate COVID-19 response. Ensuring an adequately functioning health care system provides societal benefit during and after the crisis. When using these criteria, consideration should be given to all individuals involved in caring for patients and ensuring public safety and welfare. However, care should be given when clinicians are making allocation decisions about known colleagues. Hospitals adopting these criteria should ensure ethical supports are in place to ensure fairness, transparency and accountability and to promote public acceptance of decisions.

As noted, hospitals may elect to adopt or adapt the *White and Halpern* model. Its succinct but comprehensive and thoughtful approach combines the ethical principles described above with a relatively straightforward clinical application. ***However, the WVHA recognizes that it may not be an appropriate fit for all hospitals***.

Utah Pandemic Influenza Hospital and ICU Triage Guidelines for Adults

This guidance was developed for allocating resources during pandemic influenza, which can inform the response to COVID-19. The framework uses graded guidelines to incrementally increase control over scarce resources as patient surge increases. The framework also uses modified SOFA scores (MSOFA) and give the highest priority to patients with the best chance for survival with treatment. Those with the highest chance for survival without treatment, along with those who present a low chance for survival with treatment are discharged to home or palliative care. The two middle groups represent the middle range of MSOFA scores, with treatment priority given to the lower-scoring group.

The Utah plan incorporates various triage tools for different conditions, to assist hospitals in scoring patients suffering from conditions other than COVID-19. Scoring systems adapted to particular conditions may help to prioritize patients among a particular disease classification but may yield disparities when applied to patients with vastly different conditions. Hospitals adopting the Utah plan should ensure that decisions made across a variety of illnesses or injuries ultimately are aligned with the ethical principles guiding all resource allocation decisions.

Patient Care Strategies for Scarce Resource Situations – Minnesota Department of Health

The Minnesota model uses resource- and condition-specific summary cards to generate a decision-making matrix for conventional, contingency and crisis operations. Each card contains adaptive strategies for conserving, adapting, substituting, reusing or reallocating a particular resource, depending on where the facility is on the continuum. With respect to ventilator allocation, the framework uses a variety of strategies to conserve and adapt to decrease demand. Once those measures are exhausted, the model suggests assigning ventilators to those patients most likely to benefit absent intervention, based on the SOFA score and other prognostic indicators, which may be tailored to the ethical principles of the hospital using this allocation method.

The Minnesota framework is relatively easy to adopt and operationalize. It also contains practical and useful strategies to remain in contingency operations, which is the goal of every facility managing resources during an emergency event. It is important to note that while the model incorporates SOFA scores into ventilator allocation decisions, it also warns that SOFA scores alone are poor predictors of mortality for respiratory failure and further states that they should never be used to deny access to a ventilator. Therefore, other inclusion or exclusion criteria must be factored into triage decision-making for this particular resource and must be considered in light of the Ethical Principles guiding CSC.

REFERENCES

[i] Utah Department of Health (2009) Utah pandemic influenza hospital and ICU triage guidelines. Retrieved April 2, 2020 from http://pandemicflu.utah.gov/plan/med_triage081109.pdf

[ii] National Academy of Medicine (2012) Crisis standards of care: A systems framework for catastrophic disaster response. Retrieved April 4, 2020 from https://www.nap.edu/catalog/13351/crisis-standards-of-care-a-systems-framework-for-catastrophic-disaster

[iii] Hick, J., Barbera, J. & Kelen, G. (2009) Refining surge capacity: Conventional, contingency, and crisis capacity. *Disaster Medicine and Public Health Preparedness*. 3(Supple.2): S59-S67.

[iv] U.S. Department of Health and Human Services, Office of the Secretary for Preparedness and Response (n.d.) Public health emergency. What is medical surge? Retrieved April 4, 2020 from https://www.phe.gov/Preparedness/planning/mscc/handbook/chapter1/Pages/whatismedicalsurge.aspx

[v] Pollaris, G., & Sabbe, M. (2016) Reverse triage: More than just another method. Eur J Emerg Med (4)240-247. Doi:10.1097/MEJ0000000000000339 Retrieved April 4, 2020 from https://www.ncbi.nlm.nih.gov/pubmed/26479736

[vi] National Academy of Medicine (2013) Crisis standards of care: A toolkit for indicators and triggers. Retrieved April 4, 2020 from https://www.nap.edu/read/18338/chapter/1

[vii] Hick, J., Hanfling, D., Wynia, M. & Pavia, A. (2020) Duty to plan: Health care, crisis standards of care, and Novel Coronovirus SARS-COV-2. National Academy of Medicine. Retrieved April 4, 2020 from https://nam.edu/duty-to-plan-health-care-crisis-standards-of-care-and-novel-coronavirus-sars-cov-2/

[viii] State of Michigan, Department of Public Health, Office of Public Health Preparedness (2012) Guidelines for ethical allocation of scarce medical resources and services during public health emergencies in Michigan, version 2.0.. Retrieved, April 2, 2020 from https://int.nyt.com/data/documenthelper/6857-michigan-triage-guidelines/d95555bb486d68f7007c/optimized/full.pdf.

[ix] Centers for Medicare & Medicaid (March 18, 2020) Adult elective surgery and procedure recommendations. Retrieved April 4, 2020 from https://www.cms.gov/files/document/31820-cms-adult-elective-surgery-and-procedures-recommendations.pdf

[x] Rubinson, L. Knebel, A., & Hick, J. (2010) MSOFA: An important step forward, but are we spending too much time on the SOFA? *Disaster Medicine and Public Health Preparedness*, 4(4), 270-272. Doi:10.1001/dmp.2010.41

[xi] National Library of Medicine (2013) Modified sequential organ failure assessment for critical care triage. Retrieved April 1, 2020 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3811929/

[xii] Martland, A., Huffines, M., Henry, K. (2020) Surge priority planning COVID-19: Critical care staffing and nursing considerations. American College of Chest Physicians. Retrieved April 4, 2020 from https://www.chestnet.org/Guidelines-and-Resources/Resources/Surge-Priority-Planning-COVID-19-Critical-Care-Staffing-and-Nursing-Considerations?p=1

[xiii] Centers for Disease Control and Prevention (n.d.) Cases in U.S. Retrieved April 4, 2020 from https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html#2019coronavirus-summary

[xiv] Centers for Medicare & Medicaid Services (n.d.) Quality, safety & Oversite – guidance to laws and regulations. Retrieved April 3 from https://www.cms.gov/Regulations-and Guidance/Guidance/Manuals/downloads/som107ap_a_hospitals.pdf.

[xv] Missouri Hospital Association (2020) A Framework for Managing the 2020 COVID-19 Pandemic Response and Implementing Crisis Standards of Care. Retrieved April 7 from https://www.mhanet.com/mhaimages/COVID-19/A%20Framework%20for%20Managing%20the%202020%20COVID.pdf

[xvi] Minnesota Department of Health (n.d.) Minnesota crisis standards of care framework. Surge operations and crisis care for emergency medical services. Retrieved April 4, 2020 from https://www.health.state.mn.us/communities/ep/surge/crisis/framework_ems.pdf