Healthcare Organization Surge – Framework for Response Planning

Overview

Transmission of COVID-19 is increasing in communities across the United States and in counties across Wisconsin. As the number of infected persons continues to grow, we are anticipating considerable strain on intensive care resources in multiple regions of the state. Based on the experience in other countries and other states, hospitals will take on a substantial burden in providing care to COVID-19 positive patients who may require high levels of care and ventilator support for days or weeks.

As Wisconsin moves through the phases of the COVID-19 pandemic, expected patient volume will be difficult to predict. The state has already implemented a Safer at Home order (https://content.govdelivery.com/attachments/WIGOV/2020/03/27/file_attachments/1413356/DSPS%20_%20Reduced.pdf) and a variety of other social distancing measures ("non-pharmaceutical interventions") to slow the rate of transmission in order to provide additional time to prepare the health system. Even with these measures, current disease modeling indicates that existing hospital bed capacity may be exceeded. This will create significant burden not only on physical infrastructure but also require increases in staffing and essential medical supplies.

The healthcare system and the state and federal government emergency response operations must take proactive steps now to ensure the usual standard of care can be delivered for as long as possible. In the event that resources are pushed beyond capacity, contingency and crisis plans must be developed so that they can be implemented to minimize loss of life and maximize medical outcomes for the greatest number of patients. As scarce resources are conserved and distributed, state government emergency operations and hospitals will need to support one another in decision-making and in sharing consistent messages with patients, their families, and the general public. Sharing a common framework supports that effort.

Purpose of this Document

This document and framework is meant to serve as a guide to assist further discussion, planning, and implementation for surge capacity. It should be used in parallel with existing surge response frameworks that are already in place as a part of CMS and Joint Commission requirements as well as guidelines such as the Wisconsin Department of Health Services 'Guidelines for Managing Hospital Surge Capacity', published in 2015 and available in EMResource. This document also serves as an indication of decisions that Hospitals and Health Systems and the State Government has made or is considering at varying stages of surge capacity management.

The document lays out a series of steps that should be taken now in preparation in addition to existing hospital emergency plan activation, as well steps that should be implemented during a medical surge. This document utilizes the Crisis Standards of Care framework developed by the National Academies of Sciences. The framework conceptualizes movement along a continuum between *contingency care* and *crisis care* depending on resource availability, as shown in **Figure 1**. Contingency care is defined as that which is functionally equivalent to usual patient care. In contrast, crisis care is providing the best possible care to the population of patients as a whole because of the very limited resources. Movement between conventional, contingency, and crisis care is fluid and can best be recognized by *indicators,* or decision points that guide adaptations in healthcare service delivery. Just as these stages are fluid, it is understood that hospital and health system surge capacity will also ebb and flow based on the shifting COVID-19 situation.

The planning priorities outlined below will inform plans of action by hospitals, hospital systems, behavioral health facilities and units, community partners, and the state emergency response operation. Not every planning priority outlined below will translate into action for individual organizations or for the

state as a whole. By using a common framework to guide our efforts, we will ensure that all resources – private and public, local, state, and federal – can be optimized to the greatest extent possible on behalf of the people of Wisconsin.

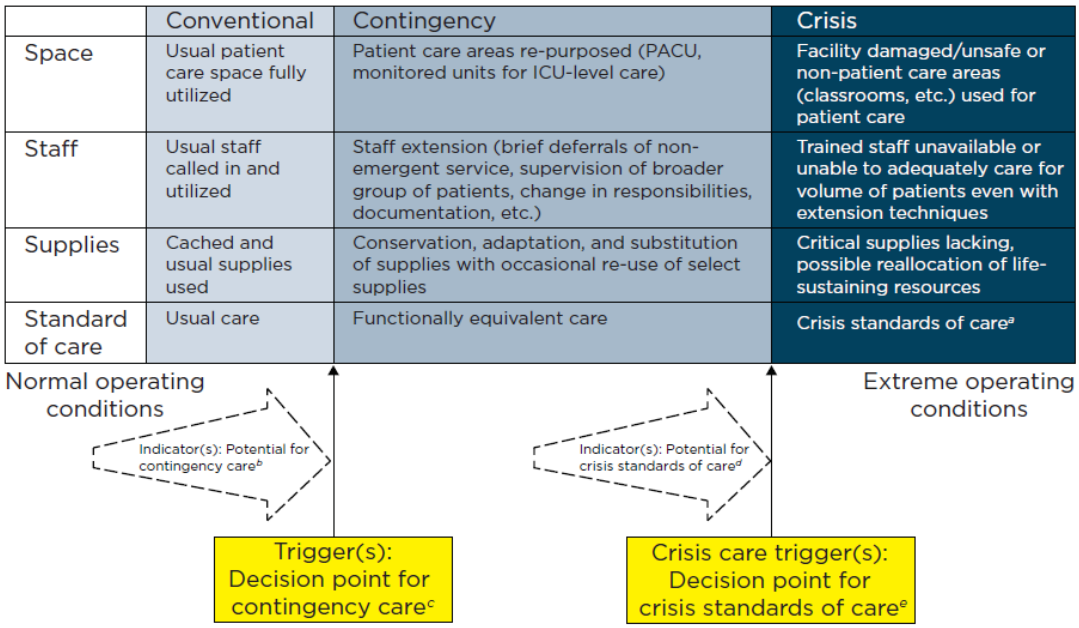

Figure 1: Allocation of specific resources along the care capacity continuum.

Conventional Care (Planning Stage):

In preparation for medical surge, Wisconsin state government and hospitals are already taking steps to catalogue all available resources, develop or refine emergency operations plans, and implementing robust data collection systems that can be used to trigger movement along the care capacity continuum.

Planning Priorities: Space/Infrastructure

Indicator: Hospitals operating at or below normal capacity

Hospitals and Hospital Systems	State Government Emergency Response
Catalogue all available spaces that could be potentially used for patient care with little to no modification (e.g., PACUs, unused hospital wings, ambulatory surgery centers).	Aggregate and map physical assets to develop statewide picture of physical capacity.
Identify alternative care sites that could be used for patient care with state assistance, such as recently used, now vacant facilities. Catalogue capacity, time required to be operational, and financial needs.	Aggregate alternative care sites being considered by hospitals systems. Quantify financial requirements to set up alternative care sites that could be met with state/federal funding.
Identify opportunities for regulatory relief that would enable surge capacity while safeguarding patient care.	Identify and make plans to modify or waive regulations governing bed limitations, for modifications needed now and for potential contingency and crisis stages.
	Identify sites that could be used for alternative care sites. Define physical infrastructure needs.

	Indicators: Develop/refine system for capturing real time or near-real time snapshot of bed availability using EMResource. Work with WHA and HERCs to support accurate and complete data reporting.

Planning Priorities: Staffing

Indicator: Hospitals operating with normal staffing levels

Hospitals and Hospital Systems	State Government Emergency Response
Utilize current mechanisms to monitor staffing levels and absenteeism on daily basis, including employee health tracking of staff impacted by COVID-19.	Continue supporting childcare for healthcare workforce; consider options to support workforce transportation and on-site housing needs during contingency and crisis stage.
Determine which staffing model and options are feasible under contingency and crisis scenarios to care for the maximum number of patients if all alternative spaces and sites are utilized.	Coordinate training healthcare workforce to perform critically needed functions like ventilator management. Identify other training and support functions that would benefit from state-wide coordination.
Identify support staff, for instance, facilities management, required under contingency and crisis scenarios.	Continue to identify additional regulatory requirements that may need to be waived to maximize clinical workforce (licensing recently retired physicians, etc).
Identify plan to expand patient care workforce: -Identify personnel currently serving in other patient care settings within the organization that could be redeployed to surge needs. -Train healthcare workforce to perform critically-needed functions like ventilator management. -Determine which office personnel could fill alternate roles to support care sites.	Identify roster of persons/volunteers that could provide non-clinical services in hospitals and other treatment sites.
Monitor staffing and supplies from ancillary services such as laundry & housekeeping, food services, and environmental services. Develop business continuity plans in the event that primary contractors' ability to conduct their business is impacted.	Elicit staffing constraints/limitations from hospitals to identify needed support.
Assign rotations and roles to keep incident command running.	Develop approach for managing movement of available staff to areas/regions during crisis state.

Planning Priorities: Supplies

Indicator: Hospitals operating at or below normal capacity

Hospitals and Hospital Systems	State Government Emergency Response
Develop plans for conservation of PPE.	Catalogue all available units that can be used for ventilator support across the state. Create mechanism for near-real-time tracking or emergency supply assistance for PPE.
Determine burn rates for PPE under different use scenarios, using established CDC guidelines as reference.	Develop real time or near-real time measure of ventilator use across the state, and PPE supply and demand by all sectors of the health system across the state.

Complete COVID-19 testing based on tiered approach promoted by DHS based on established CDC guidelines.	Develop candidate indicators for allocation of scarce ventilators and other resources in region/county and share with those responsible for distribution.
Develop methods for maximizing available ventilator support (e.g., BIPAP with ET tube, etc).	Develop ventilator and scarce resource allocation algorithm that is recommended to hospitals statewide. Include a script for consistent messaging for providers, hospitals and the state to utilize. Promote, publicize.
Create mechanism for real-time tracking of critical equipment that will be shared across units or between staff.	Adjust state testing guidance based on CDC recommendations and on the evolving COVID situation.
Create mechanism to track days on hand supply of PPE at each stage of burn rate.	Adopt and distribute model for estimating PPE burn-rate based on patient census.
	Source PPE from non-traditional suppliers.
	Source lab testing supplies (viral media, reagents, swabs) in bulk for use statewide.

Contingency Care

If COVID-19 cases continue to increase, the health care system will have to adapt usual practices to continue providing functionally equivalent care. The following are key actions that hospitals and state government should take if patient surge begins to strain current resources.

Contingency Priorities: Space/Infrastructure

INDICATOR: *Utilizing surge capacity*

Hospitals and Hospital Systems	State Government Emergency Response
Begin utilizing alternative care sites.	Issue guidance or directives on delaying elective surgeries.
Transition patients home with appropriate care.	Modify/waive bed limitations for facilities.
Transition low-acuity ED and low-acuity admitted patients to ambulatory care sites.	Coordinate with hospitals & hospital systems to identify possible alternative care sites in their area.
Begin cohorting COVID-19 patients to minimize impacts on infrastructure.	Waive restrictions on patient cohorting and consider other waivers necessary to adjust care models during contingency and crisis phase.

Contingency Priorities: Staffing

INDICATOR: *Utilizing surge capabilities identified during planning*

Hospitals and Hospital Systems	State Government Emergency Response
Alter usual staffing models.	Issue guidance or directives as needed to limit non-urgent/emergency care to preserve diminishing resources.
Obtain clinical staff from other settings (e.g., Ambulatory Surgery Center CRNAs managing critical care vents) and utilize office staff in patient care support roles (food delivery, runners, etc.)	Continue to identify and implement needed modifications and waivers to break down barriers that are creating limitations for facilities

Move staff between institutions via mutual aid agreement or centralize patients to optimize staff.	Identify roster of persons/volunteers that could provide clinical services in hospitals and other treatment sites. Coordinate as needed a regional or centralized approach to ongoing critical training.

Contingency Priorities: Supplies

INDICATOR: *Unable to follow normal PPE practices. Bedside vents nearing capacity.*

Hospitals and Hospital Systems	State Government Emergency Response
Continue to implement contingency PPE sparing practices, per CDC recommendations	Request ventilators from Strategic National Stockpile (SNS).
Utilize all available ventilator support to maximize number of patients treated.	Consider centralized sourcing of ventilators from manufacturers. Continue state efforts to source ventilators.
Further limit COVID-19 testing to critically ill or hospitalized patients in accordance with state lab and CDC guidelines.	Support county EOCs with implementation of criteria to allocate scarce resources such as PPE and testing supplies.

Crisis Care

During contingency and crisis care, the goals change from providing the usual standard of medical care to allocating scarce resources in order to maximize health outcomes for the population as a whole. All planning should be directed toward avoiding crisis scenarios. If a crisis care situation exists, treatment should be rendered using plans developed during surge planning. Movement back to contingency and usual care should be done as quickly as possible. As has been observed in heavily impacted areas such as New York, NY, and Seattle, WA, crisis care may involve alternative care sites (e.g., field hospitals), use of alternative types of PPE, and utilization of health care personnel beyond their usual scope of practice.

Crisis Priorities: Space/Infrastructure

INDICATOR: *Identified surge capacity reached or exceeded.*

Hospitals and Hospital Systems	State Government Emergency Response
Referral to non-traditional care sites	Establish non-traditional care locations (e.g., field hospitals).
Care for ICU patients in step-down care or med-surge as necessary	Identify and waive requirements as necessary to support care modifications.
Alter admission and discharge criteria	

Crisis Priorities: Staffing

INDICATOR: *Capacity exceeds available workforce*

Hospitals and Hospital Systems	State Government Emergency Response
Utilize staff beyond usual scope of practice	Waive scope of practice or licensure requirements.

Continue to implement telemedicine critical care and specialty consultation when critical care transfers are not possible	Coordinate with healthcare organizations on engagement of persons/volunteers that could provide clinical services in hospitals and other treatment sites.
Allow students/trainees to practice without usual amount of supervision	
Allow COVID-19 positive healthcare workers to care for COVID-19 patients	

Crisis Priorities: Supplies

INDICATOR: *PPE, ventilators and critical supplies insufficient to meet demand*

Hospitals and Hospital Systems	State Government Emergency Response
Implement crisis PPE sparing practices, per CDC recommendations.	Source non-traditional PPE (e.g., fabric masks).
Utilize ventilator allocation algorithms.	Issue guidance for use of ventilator allocation algorithms in region/county.
Develop a consistent message for the state, providers and government leaders to utilize to support providers in communicating difficult care decisions to patients, families and the communities they serve.	