Ventura County Health Care System
Crisis Care Continuum Guidelines
January 6, 2021

Care Continuum

This document was created in response to the COVID-19 pandemic taking into consideration the California Crisis Care Continuum Guidelines[1], disseminated by the California Department of Public Hospitals (CDPH) in June 2020 as well as the IOM National Academies of Science Crisis Standards of Care Guidelines: A Toolkit for Indicators and Triggers.

Most acute care facilities are familiar with the concepts of surge capacity and planning which is the ability to manage a sudden influx of patients and effectively manage patients requiring very specialized medical care.

When defining the types of care that is provided during an influx of patients, the first delivery model is that which is considered to be *Conventional Care,* which pertains to customary routine services that are provided through standard operating procedures. As the number and acuity of patients increase, and resources to meet their needs decrease, one moves to the middle of the care spectrum, to *Contingency Care.* In this mode, which is care that is functionally equivalent to *Conventional Care*, equipment, medications, and even staff may be used for a different purpose or in a different manner than typical daily use (e.g. substituting one antibiotic for another that covers the same classification). The demands of most incidents can be met with *Conventional* and *Contingency Care*. However, when the demands exceed the available resources, the facility will migrate to *Crisis Care* (at the far end of the care continuum spectrum), when resources are scarce and the hospital's focus shifts from delivering individual patient care to delivering the best care for the patient population being served.

The continuum of care standards and guidelines have been previously described by the IOM, and more recently in the CDPH's All-Facilities Letter 20-91 AFL dated 12/28/20. These guidelines address three categories of care as follows:

> *Conventional Care:* Usual resources and level of care is provided; maximizing bed occupancy and calling in additional staff to assist as needed.
> *Contingency Care:* The spaces, staff and supplies used are not consistent with usual daily practices. Care provided is functionally equivalent to care in Conventional Care mode, however its provision may be delayed. There is expanded use of staff and space such as; the use of PACU, utilizing existing unoccupied space is utilized in an alternative method and converting single rooms to double rooms. Staff will work longer shifts and alternate staffing configurations will be considered.
> *Crisis Care:* Due to significant limitation of resources, the focus of care is to provide maximum amount of care to the entire population of patients as a whole. Resource allocation strategies

focus on the community rather than the individual; minimization of adverse patient outcomes to the extent possible given the available resources.

The goal during a surge event is to maximize surge capacity strategies to mitigate the crisis and minimize the risks associated with deviations from conventional care. Choosing the strategies that are most appropriate to the situation and pose the least risk to the patient and provider first, and then proceeding to riskier strategies as demand increases and options decrease, is the preferred path.

Key Points about Crisis Care

Crises care may occur during long-term events, such as pandemics, when resource constraints are likely to persist for long periods of time, or during short-term, no-notice events where help will arrive, but too late to solve an acute resource shortfall.

Strategies should be proportional to the resources available. As more resources arrive, we will move back toward strategies that are less demand driven (and therefore, back toward contingency and eventually conventional status).

Healthcare decisions, including allocation of scarce resources, cannot be based on age, race, disability (including weight-related disabilities and chronic medical conditions), gender, sexual orientation, gender identity, ethnicity (including national origin and language spoken), ability to pay, weight/size, socioeconomic status, insurance status, perceived self-worth, perceived quality of life, immigration status, incarceration status, homelessness, or past or future use of resources.

Crisis care is not a separate triage plan. These strategies are extensions of surge-capacity plans.

Core Strategies

Six core strategies can be employed in anticipation of a shortage of space, supplies, and/or staff. These strategies can help avoid or mitigate a crisis of care situation.

Prepare: Pre-event actions taken to minimize resource scarcity (e.g. stockpiling of personal protective equipment (PPE), medications or supplies, planning, training).

Substitute: Use of equivalent device, drug, or personnel for one that would usually be available (e.g. exchanging morphine for fentanyl).

Adapt: Use of device, drug, or personnel that are not equivalent but that will provide sufficient care [e.g. anesthesia machine for mechanical ventilation; licensed practical nurse (LPN) with registered nurse (RN) supervision instead of multiple RNs].

Conserve: Use less of a resource by lowering dosage or changing utilization practices (e.g. minimizing use of oxygen driven nebulizers to conserve oxygen).

Re-use: Re-use (after appropriate disinfection/sterilization) items that would normally be single-use items.

Re-allocate: Restrict or prioritize use of resources to those patients who are likely to benefit and survive in the immediate short-term or to those with greater need only in times of actual shortage.

Response Strategies and Actions

In response to the COVID pandemic we have continued to convene regularly scheduled debriefs, initiated in March 2020, utilizing elements of the HICS model (Incident Command). During these debriefs we address key elements which include but are not limited to staffing, supplies, space and equipment. The meetings frequency has fluctuated throughout the pandemic, as indicated by the strain on the system, from as often as daily to as infrequent as weekly.

During daily Safety Huddles, which predate the pandemic, we also address space, staff, supplies and equipment issues affecting each individual department and discipline.

Care Capacity and Surge Planning

Physical Space

There is a surge plan for each hospital (VCMC/SPH) which outlines graduated expansion from traditional care spaces to alternate care spaces. These plans were created early in the pandemic and have been modified to address changing needs.

When physical space traditionally allocated to inpatients at VCMC has been utilized we will expand sequentially as follows:

- Post-acute care unit
- Pre-operative holding area
- Pediatric Intensive Care Unit
- 305 building (housed acute care patients as recently as 2018) units
    - 3 West
    - 3 North
    - 3 East
    - NICU A and B
    - 4 North

As well, a surge tent was erected outside of the Emergency Department (ED) to help decompress the ED. The use of the tent will depend on clinical situation (clean patients vs PUI vs COVID-positive patients)

Should the need arise we will utilize other non-traditional patient care space for patient care such as meeting/conference rooms and waiting areas.

When physical space traditionally allocated to inpatients at SPH has been utilized we will expand sequentially as follows:

- Double-occupancy of med/surg rooms that are plumbed with dual headwall for COVID positive patients
- Obstetrics unit
- The following rooms, located adjacent to the ED can be used for multiple occupancy, with portable oxygen and monitoring:
    - Procedure room
    - Cast room outside

As well, a surge tent was erected outside of the Emergency Department (ED) to help decompress the ED. The use of the tent will depend on clinical situation (clean patients vs PUI vs COVID-positive patients).

Should the need arise we will utilize other non-traditional patient care space for patient care such as meeting/conference rooms and waiting areas.

In addition, prioritization is placed on expedited discharges (to home or other setting, such as long-term care facility), early discharges of patients requiring minimal oxygen, and transfer of patients to alternate care sites that have been identified by our EMS partners.

Staffing (Physician, Nursing and Ancillary)

Strategies to Augment Physician Staffing:

- Identifying a pool of physicians, currently working in our affiliated ambulatory system, capable of providing critical care, hospitalist, emergency department, pediatric, and obstetric care. It is from this pool that each individual physician staffing line will be augmented
    - Critical Care physician staffing has been augmented by contracting with individual physicians, previously trained at, and still affiliated with, our institution, who possess the skills necessary to assist in managing our core intensivists in managing critically ill patients. These extra physicians are brought in on an "as needed" basis when ICU level patient census exceeds 12 patients, or earlier if the acuity of the patients demands. Additional shifts / providers will be authorized as needed for increasing census.
    - Adult Medicine Hospitalist physician staffing has been augmented by supplementing the existing contract of our hospital medicine physician group, allowing them to contract with individual physicians, previously trained at, and still affiliated with, our institution, who possess the skills necessary to manage adult hospitalized patients. Additional shifts / providers will be authorized as needed for increasing census.
- If these measures are insufficient to meet demand, we will discuss with the MHOAC, the local Public Health Department and local District Office of the CDPH to enquire about additional available resources

Strategies to Augment Nurse Staffing:

- Contracting with companies to provide traveler nurses in critical care, medical / surgical unit, emergency department, and the operating room.
- Extending contracts of existing traveling nurses
- Utilizing local registry nurse companies
- Increasing reimbursement to employed nurses as an incentive to work extra shifts
- Identifying recently retired nurses willing to return to the bedside (or other nurse-related job)
- Identifying nurses in managerial or other non-bedside roles willing to return to bedside nursing as need arises
- Identify nurses in other County agency departments
- Providing training of non-critical care nurses in basic ventilator and ICU-medication management
- Moving ambulatory nurses to support roles in the inpatient setting
- Contacted the state Medical Service Corps

- Recruiting nursing students from area nursing schools to function in apprentice type roles of a team-based nursing model
- Apply to CDPH for a temporarily waiver of nurse-to-patient ratios
- If these measures are insufficient to meet demand, we will discuss with the MHOAC, local health department, and local branch of the CDPH to enquire about additional available resources

Strategies to Augment Ancillary Staffing:

- Utilizing the other County of Ventura employees in roles other than their job classification (e.g. behavioral health personnel working as entrance COVID screeners)
- Contracting with companies to provider travelers to support critical care, medical / surgical unit, emergency department, and the operating room.
- Extending contracts of existing traveling ancillary staff
- Utilizing local registry companies
- Increasing reimbursement to employed staff for working extra shifts
- Contracting with outside companies to augment existing employed staff (e.g. environmental services)
- Moving ambulatory ancillary staff to the inpatient setting
- If these measures are insufficient to meet demand, we will discuss with the MHOAC, local health department, and local branch of the CDPH to enquire about additional available resources

Equipment and Supplies

Our procurement team has been diligently working to expand our capacity to withstand the drawdown that a surge of COVID patients would cause on our supplies

Ventilators, High-Flow Nasal Canula (HFNC), Non-Invasive Ventilation (NIV):

- At onset of the pandemic we inventoried our existing supply of Ventilators, High-Flow Nasal Canula, Non-Invasive Ventilation devices, and procured as many viral filters and circuits as possible for devices
- Early in the pandemic our Biomed team refurbished 25 LTV1200 ventilators that had been donated to the hospital from a mothballed state facility
- Receive daily report on use and availability of ventilators, HFNC, and NIV machines
- We have upgraded software on 13 V60 BiPAP machines to make them High-Flow Nasal Canula compatible, allowing single machine to function in the place of what previously required two machines.
- Acquired 5 Ventec Life Systems' VOCSN multi-function ventilator devices from local EMS. Respiratory team educating entire staff on use. Attempting to acquire more of these multi-function devices.
- Limit surgeries to only essential / urgent surgeries that, if delayed, have a high likelihood of morbidity
- If these measures are insufficient to meet demand, we will discuss with the MHOAC, local health department, and local branch of the CDPH to enquire about additional available resources

Personal Protective Equipment (PPE):

At the onset of the pandemic we inventoried our existing supplies and as appropriate secured ample additional supplies which our procurement team has continued to diligently track and procure so that we maintain ample essential PP. The strategies we have utilized to track/maintain our PPE include but are not limited to the following

- Daily reporting of PPE on hand, burn rate, pending shipments, unusual draw downs, and pressure points in our on-hand supply or pending supply chain
- Regular contact local MHOAC for supply of gowns, gloves, cleaning wipes, masks, respirators, and eye protection when there may be a supply chain challenge. An early example was related to the possible number of available with the help of MHOAC / EMS supply we identified alternate "Ford" PAPRs.
- If these measures are insufficient to meet demand, we will address with the MHOAC, local Public Health Department and contact our local CDPH District Office to enquire about additional available resources

Considerations for Ethical Resource Allocation

In March 2020, the Medical Staff developed an Allocation of Scarce Resources policy. In developing this policy, the Medical Staff reviewed the available literature, discussed with local ethics experts, consulted with the Medical Staff attorney and with our County Counsel to help guide us in the development of the policy taking into consideration what may be considered – in the face of the pandemic – a hospital community practice (similar policies developed by other area hospitals). The core tenet of the policy is a shift from individual ethics to population ethics ("doing the most good for the most people") during times of extreme resource scarcity. This policy addresses allocation of all resources that may be required for critical care, including equipment, personnel, space, medications, and resuscitative efforts.

Clinical Decision Support for Equitable Rationing of Scarce Resources

All managing physicians were offered education on documentation to support the Scarce Resource Allocation team via email and via video conference. The elements required to calculate the SOFA score, upon which many of the triage team decisions would rely, were discussed.

Triage Team Composition

12 physicians from various disciplines (Internal medicine, general surgery, orthopedics, obstetrics, intensive care, pediatrics, etc) make up 4 3-person teams that take 12-hour call as a team.

Declaration of a Crisis

Crisis will be declared only after the Medical Director consults with medical staff leaders, nursing and hospital leadership, and exhausts all other potential resources, including, but not limited to, contacting the MHOAC, local Public Health Department and the local District Office of CDPH to enquire about additional available resources

Critical Care Referral and Triage Decisions

Patients requiring a scarce resource will be entered into a database by one of the triage team members, who will be contacted by the treating physician requesting the scarce resource.

Documentation and Communication

Decision of the triage team will be documented in the patient chart. An appeals process exists for those that wish to dispute the findings of the triage officers. Decisions are communicated to the patient and family (either by the treating physician or the triage officers).

Prior to moving from Conventional to Contingency to Crisis Care and return towards Conventional, we will use indicators, and triggers to move from each category in the following 4 key areas: PPE, Supplies, and Equipment; Staffing; Space; and Operations.

Category	Contingency	Crisis	Return to Conventional
PPE/Supplies/Equipment	**Indicators:** Vendor supply, use rates **Trigger:** Consumption rates of PPE unsustainable **Response:** Use non-traditional vendors, obtain from coalition facilities/stockpiles (including state/federal sources); conserve, substitute or adapt functionally equivalent resources, and reuse if appropriate	**Indicators:** Coalition lack of available ventilators; anesthesia machines and other adaptive ventilation strategies in use **Trigger:** Inadequate ventilators (or other life-sustaining technology) for all patients that require them; inadequate supplies that cannot be effectively conserved or substituted for without risk of disability or death without treatment **Response:** Activate Triage Team; coordinate care/triage policies with coalition facilities; triage access to life-saving resources and reallocate as required to meet demand according to state/regional consensus recommendations; restrict medications to select indications; restrict PPE to high-risk exposures (and/or permit PPE reuse)	**Indicators:** Reduced use of PPE or other supplies, reduced caseload or demand for care and services; improved delivery of supplies; reduced need for ventilator or other triage **Trigger:** Able to provide contingency ventilation and critical care strategies to all that require them **Response:** Retriage patients as resources become available; broaden indications for interventions as conditions improve; transition back from reallocation and reuse to safer adaptive and conservation strategies; loosen restrictions on use of supplies.
Staffing	**Indicators:** Increasing staff absenteeism; specialized staff needed; high patient census; staffing hours adjustment required to maintain coverage; staffing supervision model changes required to maintain coverage **Triggers:** Normal staff to patient ratios exceeded; specific staff expertise demands exceeded	**Indicators:** Increasing staff requirements in face of increasing demand; contingency spaces maximized; contingency staffing maximized **Trigger:** Unable to safely increase staff to patient ratios or broaden supervisory responsibilities; lack of qualified staff for specific	**Indicators:** Staff impact and absenteeism is reduced; specialty staff obtained or demand decreased **Trigger:** Staff to patient ratios reverted to baseline **Response:** Shorten shift lengths; adjust staff to patient ratios toward normal; transition toward usual staff – releasing less qualified staff

	Response: Change hours, staffing patterns; change staff to patient ratios; specialty staff provide only specialty technical care, while others provide general care; callback, obtain equivalent staff from coalition, hiring, administrative staff; change charting responsibilities; curtail nonessential staffing (cancel elective cases, etc)	cares – especially those with high life-safety impact **Response:** Tailor responsibilities to expertise, diverting nontechnical or non-essential care to others; recruit and credential staff from volunteer organizations; establish remote consultations of specialized services; evacuate patients to other facilities with appropriate staff available	first; resume care routines and administrative duties
Space	**Indicators:** Increased ED volumes, clinic/outpatient volumes, inpatient census, and pending admits/ED boarding **Triggers:** Inpatient census exceeds conventional beds; clinics unable to accommodate demand for acute care **Response:** Expand outpatient care hours; open additional outpatient care space by adjusting specialty clinic space/times; provide "inpatient" care in pre-op, PACU or other equivalent areas; divert or transfer patients to other facilities; reverse triage appropriate patients home (with appropriate home care)	**Indicators:** Inpatient/outpatient contingency spaces maximized or near-maximized; escalating or sustained demand on ED/outpatient despite implementing contingency strategies **Trigger**: Contingency inpatient beds maximized; contingency outpatient adaptations inadequate to meet demand using equivalent spaces or strategies **Response:** Establish nontraditional alternate care locations (e.g. tents, conference rooms) recognizing governmental role in authorizing waivers; reverse triage stable patients to these areas and move stable ICU patients to monitored bed areas (Tele, DOU); change admission criteria - manage as outpatients with support/early follow-up; evacuate patients to other facilities in the region/state/nation that have appropriate capabilities and capacity	**Indicators:** Favorable epidemiologic curves; restoration of critical system function; ED/outpatient volumes decreasing **Trigger:** Patients matched to appropriate areas for care **Response:** Transition of sickest patients back into ICU environment; broaden admission criteria; reduce/eliminate care in nontraditional spaces; shift towards normal hours

Return to Contingency/Conventional

Once it is clear that the stressor leading to crisis mode declaration has abated, we will immediately return to either the Contingency or Conventional Care models as noted in the table.

This de-escalation will be communicated out via the Administrator on Duty to the nursing supervisor. In addition, the Chief Medical Officer will provide communication to the medical staff department heads of (Surgery, Critical Care, Medicine, Emergency Department, Obstetrics, and Pediatrics). The department heads will disseminate amongst the members of their department.

Please reference the policy "Allocation of Critical Care Resources During a Public Health Emergency**."** This policy outlines the composition and function of a Triage Team in determining allocation of scarce resources associated with Sars-CoV-2 pandemic.

https://vcmc.policystat.com/?lt=65bRzOM434IY6n_vKBa3bG&next=%2Fpolicy%2F7919535%2Flatest%2F