Overall Approach

• **Be adaptable and flexible.** Make plans, change plans based on new information, and be willing to change the plans again. This constant state of change is difficult for staff, especially because many health care workers like definitive answers. Screening and testing patients are examples of where this adaptability is most needed.

• **Communicate regularly, clearly, and concisely.** Frequent, short communications help staff stay informed and debunk misinformation circulating in the media and social media. It is good to have regular communication.
  > **Example of frequency:** Med Center Health has both a Provider Update that goes out twice weekly—or more often, if needed—to all members of the medical staff, and a Clinical Staff Update that goes out daily.
  > **Example of the need for clarity:** Med Center Health asked the staff not to allow food delivery workers to come into the hospital, but rather to meet them at the door to pick up their orders. This got translated into not allowing the food vendors for the kitchen to be allowed in the hospital!

• **Plan for worst-case scenarios.** Consider how to address the current situation, the next surge situation that can be managed in-house, and the next surge situation that will need to be managed outside of the hospital. Include pharmacists in all stages to plan for how medications will be available for patients, or what to do when medications are not available.

• **Take care of each other.** This is going to be more of a marathon than a sprint. Make sure that leaders and staff get away from work for a day or so at regular intervals, just to try to refresh.
Access to Medications

- **Include clinical pharmacists in all medication decisions.** Pharmacists with expertise should be involved in medication decisions such as appropriate dosing and monitoring for hydroxychloroquine and azithromycin, appropriate dosing and preparation of sedation drips, and how medications will be transported to specific COVID-19 units.

- **Plan for drug shortages.** Current shortages in the contributor’s health systems include agents for sedation, fentanyl, midazolam, neuromuscular blockers, and critical-care medications. There are not as many shortages for gram-negative antibiotics as expected.

- **Prepare for easy availability of medications, especially for procedures such as intubations.**
  - Example: At Med Center Health, kits of medications typically used as part of an intubation procedure were prepared and available on procedure carts located outside of negative-pressure rooms.

- **Prepare inventory for a standard treatment approach for all COVID-19 patients.** In one of the contributors’ health systems, hydroxychloroquine and azithromycin are being given to all intubated patients with COVID-19.

- **Enroll in relevant clinical trials.** Participating in studies for COVID-19 treatments can be intensive, but it may be the only way to gain access to a specific medication. Beginning the process to enroll in the study now will set your health system up for success if those agents are needed. If staff are stretched, consider involving a student pharmacist or someone from a local university to serve as the facilitator for possible study involvement.

- **Form relationships with manufacturers of IL-6 drugs to treat cytokine release.** Connect your oncology leaders with infectious disease leaders now to talk about forming relationships with Genentech, Gilead, Regeneron, and other relevant manufacturers.

- **Innovate how you source medications.** Identify a COVID-19 steward to help facilitate moving drugs and supplies from one facility to another. Consider establishing an email address (e.g., COVIDSHORTAGES@healthsystem.com) that can be managed by your sourcing team.

Medications—System Changes Needed

- **Include pharmacy as the health system establishes a plan for a COVID-19–specific unit.** The plan should include how to determine PPE needs, establish telehealth or remote monitoring communications, reduce provider traffic, deliver meals, provide medications, etc.

- **Plan for how medications will be stocked and replenished.** Plan for the oncoming surge in demand with more automatic dispensing systems (ADS), floor stock cabinets, and crash carts. Establish wash-down procedures for crash carts. Having the process well established will help sustainability over the marathon needed in this response.
Secure additional or repurpose existing equipment. Get more I.V. pumps, crash carts, and medication carts. Move equipment out of the operating rooms, if needed, and move ADS cabinets to high-use areas.

Update your electronic medical record (EMR) to facilitate care delivery. Partner with your EMR vendor to develop reports that can help practitioners manage critical patients. As nursing units are shifted to accommodate COVID-19 patients (e.g., PACU becomes ICU, med-surg unit becomes ICU), nursing unit names no longer mean what they used to, so there must be other ways to identify patients in critical need.

Example: Mount Sinai identifies patients on ventilators and non-rebreather masks to identify who is the sickest.

Plan for innovative ways to deliver hospice care. Prepare a plan for decreasing the burden on and risk to hospice workers. Consider delivering hospice and palliative care via telehealth and preparation of comfort kits to allow patients to go home to die (e.g., morphine, lorazepam, haloperidol liquids, atropine, bowel management). Establish hospice services in a hotel for patients being transitioned from inpatient care when a nursing home, skilled nursing facility, or home are not available options.

Minimize Risk to Staff

Ensure pharmacy staff in high-risk areas have personal protective equipment (PPE). Pharmacists located in emergency departments and other areas with likely exposure to COVID-19 patients should be protected through the use of PPE.

Prepare for PPE shortages. Understand the CDC guidance for PPE use and recommendations for managing shortages and extending the life of PPE, especially N95 masks.

Begin PPE restrictions in I.V. rooms to conserve supply. Reducing PPE use in I.V. rooms now will extend the time PPE is available within your health system.

Consolidate medication administration schedule for each patient. Develop a system for consolidating medication administration to reduce the number of nursing visits and time nurses spend in patient rooms.

Utilize virtual order entry and camera technology. Virtual workflow enhancements will reduce staff interactions and handling of common surfaces.

Change staff schedules and work processes to reduce community/staff exposure. Shift to 12-hour shifts or double shifts to reduce trips into hospital, to keep staff well. Segregate staff to maintain social distancing. Ensure all staff are thoroughly wiping down their computer keyboards and telephones at the beginning and end of their shifts, and any time they have stepped away from their workstations.
Maintaining a Workforce

• Determine what services can be outsourced. Plan to outsource anything that can be done by an external entity (e.g., 503Bs, TPNs, critical-care drugs) to conserve staff and minimize exposure.

• Practice maximum downward task delegation. Use medical students, student pharmacists, and volunteers for straightforward tasks (e.g., stocking carts, putting away deliveries) to keep staff focused on high-priority responsibilities that require their expertise.

• Plan for virtual work where possible. Allocate tasks that can be completed virtually to older staff and pregnant staff. Utilization of their talents in a virtual capacity may pre-empt these higher-risk individuals from electing to go on medical leave and help maintain staffing capacity.

• Build your bench. Reach out to all individuals who have ever worked at or are affiliated with your facility to provide support, per-diem coverage, and other staffing needs.

Financial Considerations

• Plan to provide assistance to the finance department to prepare FEMA requests. Use COVID-19 accounts for wholesaler purchases. Leverage virtual inventory tools.

• Support planning for long-term impact of COVID-19 on staffing. Develop scenarios for how to manage “non-essential” hospital staff in the event there needs to be layoffs. Plan for how to communicate, and the ramifications of this decision, when hospital services that have been paused are ramped back up (e.g., elective surgeries and procedures).