

COVID-19 Lessons Learned:
A Resource for Recovery
Deloitte & Joint Commission Resources
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I. Executive Summary

The occurrence of a global pandemic has been widely predicted over the past several decades. Notwithstanding earlier improvements in our pandemic readiness, COVID-19 has upended our world and exposed deep limitations in our planning, policies, resources, and training. Out of necessity, organizations are redefining their “new normal” and must position themselves to anticipate and meet unknown future threats successfully. Emerging infectious diseases will continue to present new challenges to health systems. The time to prepare for them is now.

Throughout the pandemic, Deloitte and Joint Commission Resources have actively supported the continuity of essential services across public and private providers, while playing a leadership role in the nation’s response and recovery initiatives. Through these efforts, we have identified essential lessons learned in key focus areas. Some of these lessons learned represent new findings. In other cases, the pandemic has simply highlighted and underlined known best practices. This document seeks to catalogue known best practices, successes, and significant areas for improvement across the full spectrum of public and private providers and health care organizations in the hope that these considerations will be useful to health care practitioners in meeting the current crisis, preparing for the next crisis, and setting a foundation for improving care delivery overall.

i. Purpose and How to Use This Resource

Many organizations have developed recommendations for emergency response efforts, following the *White House Guidelines for Opening Up America Again*. Rather than explicitly addressing the emergency management maturation phases and triggers promoted by this guidance, we have catalogued a broad array of lessons learned identified during the period of

Health care leaders can apply the lessons learned that best fit their specific needs and environment.

March through August 2020. These lessons learned are based on discussions with a diverse group of health care leaders; assessments of readiness/preparedness efforts across national, regional and local stakeholders; and a review of public documents highlighted in [Appendix B](#). Organized by focus area and/or domain within the health system (see Figure 1), these lessons learned represent “considerations” for addressing specific issues and are relevant for a wide audience, including federal and state policymakers; public health officials; health system and hospital

leaders; clinicians; administrative support personnel; and other professionals. section highlights key considerations, essential functions, and best practices across all phases of the pandemic. These considerations are neither requirements nor recommendations from Deloitte and Joint Commission Resources or their affiliates, but clearly **highlight how top leaders are managing their own organizations** and how public and private oversight bodies are structuring their evaluations of emergency response efforts.

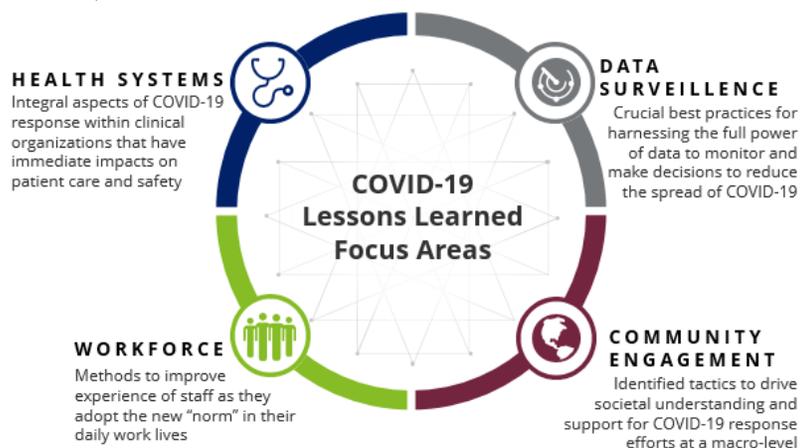


Figure 1. Lessons learned focus areas

ii. Health Care Domains and Issues Covered

The considerations included in this document include observed best practices adopted by organizations throughout the COVID-19 response. For each health care domain and associated issues, this document lays out specific actions that organizations have taken to address them, and provides access to guidance and tools that health care leaders can use to create and enact their own plan to address these challenges.

Table 1. Issues Covered by Health Care Domain

Health Care Domain	Issue Summary
Health Systems	
Leadership	The health care organizations that have launched the most effective COVID-19 responses have demonstrated cascading leadership engagement that builds strong, empowered teams in a patient-centered culture of safety with preparedness as a priority.
Intergovernmental and Stakeholder Collaboration	A successful response strategy to manage a pandemic as complex as COVID-19 requires coordination and guidance across many stakeholders, particularly federal and state agencies, integrating their response efforts.
Emergency Readiness and Crisis Response	COVID-19 found many organizations inadequately prepared to respond, including health care organizations and state and federal systems. A crisis of this magnitude requires extensive advanced planning, risk calculation capabilities, and adequate systems to assess potential hazards and threats in advance.
Patient Safety and High Reliability	During a pandemic, and in any high-hazard, complex, stressful environment, patient and staff safety is priority one. High reliability organizations (HROs) prioritize safety over other performance pressures, operating for extended periods of time in such situations without serious accidents or catastrophic failures.
Infection Control	COVID-19 is highly transmissible, has a high mortality rate, and the entire population is susceptible. Given this, it is critical to reduce the spread of infection as much as possible.
Environment of Care	Organizations need to provide a safe and supportive environment in which to care for and treat patients and staff.
Alternate Care Sites	Organizations may be limited in their ability to predict or manage patient in-take and bed capacity during a pandemic. Depending on the severity of the emergency and the availability of community resources, Alternate Care Sites (ACS) as temporary screening and/or isolation locations may need to be established to address increased patient loads.
Virtual Health	Telehealth and other virtual health services have seen sudden explosive growth, driven by drastic limitations in access to face-to-face care, and CMS 1135 waivers which create unprecedented allowances for reimbursement, licensure, and documentation.
Interim Regulatory Changes for Virtual Health	Under special circumstances, the HHS Secretary can modify regulations around virtual health solutions in order to expand accessibility and expedite approval processes. Understanding how regulations shift during a crisis will allow providers to take advantage of virtual health tools to provide care more safely and quickly.
Backlog Demands	To halt the spread of COVID-19, many hospitals, health systems, and providers postponed elective and non-emergency patient procedures. There is now a significant backlog of care that, if not managed correctly, has the potential to overwhelm existing capacity.
Supply Chain	Many health care organizations experienced severe shortages of critical personal protective equipment as the incidence of COVID-19 cases grew. This left both employees and the population at greater risk of acquiring COVID-19, and in the future has the potential to be a material limiting factor on access to care.
Financial Support and Sustainability	The COVID-19 health crisis has been accompanied by a significant economic crisis in the health care industry. In addition to the substantial reduction in revenue due to COVID-19, health care organizations must address the surging demand for unplanned health care services.

Health Care Domain	Issue Summary
Data Surveillance	
Data Surveillance	A variety of data collected around the COVID-19 pandemic are incomplete, unidirectional (from health system to public health agency) and inadequate to provide effective and timely insight into what is happening on a larger scale.
Contact Tracing	COVID-19 disease transmission can be stopped by identifying cases and their contacts quickly and getting them to limit or stop their contact with other people while they're infectious. The use of real-time data and analytics processes will further assist efforts to limit the spread of the virus.
Workforce	
Workforce	The response to COVID-19 brought substantial professional, personal, social, and emotional challenges to most people involved. Provider resiliency can be enhanced by targeting the needs of health care professionals and staff, essential service employees, administrative staff, and leadership.
Communications and Change Management	The COVID-19 “new normal” includes social distancing, safety precautions, and operational changes to maintain or restart operations and provide patients and staff with a feeling of safety and security.
Mental Wellness	Health care providers and staff are facing unprecedented strains during the public health emergency, including isolation from family due to COVID-19 exposure, working longer shifts under challenging conditions, and worrying for their own safety if PPE is limited. These, among other stressors, put providers’ and staff’s mental health at heightened risk.
Community Engagement	
Disparities and Drivers of Health	Drivers of health, the conditions in which people live, learn, work, and play have a significant impact on health risks and health outcomes. COVID-19 has placed a renewed emphasis on the connection between drivers of health and health outcomes. Organizations need to consider cross-collaborating to account for cultural and local necessities for all members of the community.

II. Health System Focus Areas

i. Leadership

Issue

During the COVID-19 response, health care organizations mounting the most effective response to surges in demand for complex care have demonstrated strong safety cultures featuring high-performing, collaborative, and resilient teams. These organizations have also demonstrated forethought in preparation and organizational agility. Such organizational characteristics hinge on cascading leadership engagement that builds strong, empowered teams in a patient-centered culture of safety with preparedness as a priority.

Why It Is Important

Public health emergencies generate rapidly evolving, complex, and often novel challenges for providers and communities. In this scenario, a health care organization must have the agility to generate solutions apace with the situation. This agility is realized when the organization functions as a network of teams applying a common strategy with delegated problem-solving authority. Strong, trusted, compassionate leadership aligned with organizational values is central to the success of this approach. More broadly, leadership must prioritize preparedness and crisis resilience in order to expand available solutions during response. Further, mature community partnerships developed through leadership outreach provide critical enhancements to these solutions.

Considerations

- Prepare the organization by strengthening culture, resilience, and preparedness:
 - Develop and sustain organizational values.
 - Drive leadership engagement with front-line teams.
 - Develop the organization’s teams to be collaborative problem-solvers.
 - Adapt to become a learning organization by setting measures, targeting change, assessing progress, and remeasuring as needed.
 - Maintain preparedness and planning for contingencies as a strategic priority.
 - Establish mature community and governmental partnerships for contingency response.
 - Monitor indicators of potential public health threats.
- Apply executive intent, presence, encouragement, support, and communication regularly:
 - Employ leadership engagement techniques through all levels of the organization with practices such as leadership rounding for shared problem solving.
 - Schedule regular meetings or huddles to maintain frequent discussion and information sharing; apply and promote active listening practices during leadership rounding to demonstrate deep understanding of and empathy to staff concerns.
 - Follow-up with updates on issues raised during interaction with staff.
 - Communicate frequently through multiple modalities including direct interaction, short videos, social media, virtual town halls, emails, newsletters, websites, and formal correspondence.
 - Sustain a central strategy with awareness of operations while keeping decision authority for operations at a level that is close to the point of care.

It is crucial to build a safety culture featuring trust and an empowered network of teams.

- Build and sustain a framework for aligned decisions in the organization:
 - Establish a common operating picture for the organization’s response through consolidation of diverse and timely data.
 - Review and update objectives throughout recovery as new information is collected from internal and external sources.
 - Establish a central, clear list of risks and priorities.
 - Build mitigation strategies tied to risk thresholds to align the organization’s approach to risk.
 - Anticipate and plan for future challenges.
- Apply day-to-day leadership practices to build trust and sustain a sense of purpose:
 - Build trust among staff and patients through actions aligned to principles of high reliability (see Section II.iv. *Patient Safety and High Reliability* for more information).
 - Demonstrate empathy through recognition, understanding, and respect for the feelings and opinions of staff and patients.
 - Be present, visible and available.
 - Maintain perspective in a crisis.
 - Reinforce intent and priorities frequently.

ii. Intergovernmental and Stakeholder Collaboration

Issue

Strong leadership alone is not enough to manage a pandemic as complex as COVID-19. Leaders require guidance and support from many stakeholders, particularly federal and state agencies, in coordinating their response efforts.

Why It Is Important

Successful emergency management requires cooperation and unity of effort across the public, private, and nonprofit sectors. During public health emergencies, federal and state government leaders are responsible for making critical decisions that have a significant impact on health care organizations. A healthy bi-directional engagement with public sector officials will improve decision making, collaboration, and synchronization across recovery efforts. Strong working relationships with key local, state, and national leaders are essential for preparedness.

Considerations

- Understand the regulations that have changed in response to a public health or other type of emergency.
- Pursue and foster collaboration across organizations:
 - Consider and welcome assistance from other organizations and other parts of the health care continuum, including support for additional capabilities, operational coordination, planning, situational assessment, logistics, and supply chain management, and be open to alternative approaches and different methodologies.
 - Consult the list of relevant federal agencies that are providing invaluable resources during the pandemic included in [Appendix A](#). This list includes resources provided through the: Department of Homeland Security (DHS) National Response Framework; Department of Health and Human Services Assistant Secretary for

To be successful, leaders need to be aware of the relative roles of government and non-governmental agencies, the resources and expertise each can offer, and how to access their assistance when needed.

Preparedness and Response (ASPR); Centers for Disease Control and Prevention (CDC); and Occupational Safety and Health Administration (OSHA).

- Prepare to address and organize rapidly changing guidelines from various organizations. For example, state guidelines may evolve more quickly than CDC or federal guidelines in response to the unique environment on the ground.

iii. Emergency Readiness and Crisis Response

Issue

Many organizations were not adequately prepared to respond to the uncertainty and longevity of COVID-19. Neither were state and federal systems adequately prepared when called upon for support as the crisis escalated. Mitigation, planning, and rehearsal, the initial steps in emergency preparedness, depend heavily on the assessment of potential hazards and threats in advance.

Arguably, the most important work in emergency response is the work done in preparation.

Why It Is Important

While historically, the world has faced pandemics with similar challenges (e.g., the flu pandemic of 1918-1920), the characteristics of COVID-19 response are relatively novel. For example, there is greater interconnectedness of health care supply chains than during previous pandemics, and more complex means of supportive care are now available. During COVID-19, we have seen that limited suppliers that cannot capture demand, and limited capacity can have compounded detrimental impacts. If risk calculations aren't inclusive of all factors and lessons learned associated with a COVID-19 type scenario, then emergency operations plans may not adequately address the needs associated with future pandemics.

Considerations

- Take a rigorous approach to planning and preparing for emergency response:
 - Perform a Hazards Vulnerability Analysis (HVA). Focused on assessing the potential hazards and threats of future disasters, the HVA will serve as a key input to the emergency operations plan (EOP) and will drive appropriate mitigation and planning.
 - Apply an “all hazards approach” to develop comprehensive response and recovery efforts in the EOP that are relevant to a spectrum of emergency situations; be sure to consider emerging infectious disease threats along with other potential emergencies or disasters.
 - Maintain awareness of capacity and be prepared to execute plans for Alternate Care Sites.
 - Organize and leverage relevant subject matter experts to further develop operational guidance in response to changing requirements.
 - Perform drills regularly to be ready for implementation. Organizations often struggle with implementation of the EOP.
 - Be nimble in implementing changes that need to be made quickly.
- Maintain a list of changes made during the COVID-19 response and perform a thorough debrief. Document the review process to capture lessons learned and modify the EOP accordingly.

- Plan for surge scenarios:
 - Consider the four “S” of surge (staffing, space, supplies and systems), as referenced in Figure 2, as interdependent factors in determining organizational capacity. When one factor cannot support the demands of another, it becomes the rate limiting factor. Know which factor is your limit and consider a rationing plan to provide guidance for different scenarios.
 - Understand the specific needs presented by COVID-19. In some cases, the need for intensive care unit (ICU) beds with critical supplies (ventilators, medicines, medical gases, staff skills, and personal protective equipment (PPE)) impacted the ability to adequately respond to a surge.
 - Determine how routinely a specific hospital meets capacity and identify ways to shift intake to avoid capacity issues. Large hospitals that support critical care efforts in an area routinely operate at near capacity levels. Small hospitals often have limited resources and routinely transfer patients for care to tertiary hospitals.



Figure 2. Surge factors required to adapt to increased demand

- Maintain a current list of staffing needs and availability to meet demand:
 - Implement a current and credible contact database to assign and track staffing throughout the crisis.
 - Consider and prepare for possible telecommunications failures such as non-availability of email and traditional information technology (IT) applications.
 - Reallocate professionals from lower demand areas to areas that have experienced a surge to assure adequate numbers of staff.
 - Implement social distancing policies and talent sharing across organizations as much as possible.
 - Cross-train staff to perform high priority duties, particularly those that support preventing infection and identifying and treating infected persons. These may include the use of diagnostic techniques such as swabbing protocols. Consider tapping into volunteer resources such as medical reserve corps.
 - Support basic needs of staff through available community resources (e.g., accommodations at hotels and restaurants) when on-site resources are limited or unavailable. Consider creating a registry of willing staff to help their co-workers with child, elder, and pet care, and support with transportation.
 - Assess the type of staff and skills needed beyond the immediate response to begin recruitment efforts as the needs of the community change, particularly seeking those with experience treating patients impacted by the event (e.g., pulmonary specialists for COVID-19).
- Prepare resources to accommodate patient movement:
 - Establish protocols to create cohorts and enforce isolation among infected and noninfected patients. This includes designating staff to care exclusively for infected or non-infected patients.
 - Enlist the infection preventionists and facility staff to establish traffic flow patterns to reduce exposure (e.g., creating separate entrances into the emergency department (ED) for patients presenting with flu-like symptoms versus other emergencies).
 - Create separated spaces (e.g., in the ED waiting room) and create open surge space for non-life-threatening injuries.

- Establish a method for tracking patients who are sent to alternate care sites throughout their stay and during transfers that includes pertinent clinical information.
- Provide additional assistance to vulnerable populations, such as patients who are physically handicapped, pediatric, pregnant, have behavioral health issues, or those who use English as a second language, keeping in mind the need to reduce potential exposure of support staff.
- Include patient use in PPE forecasting.
- Recruit and educate disaster volunteers, while acknowledging volunteer restrictions imposed by many providers during COVID-19:
 - Follow all existing medical staff bylaws and policies related to temporary employment (e.g., be sure to separate Licensed Independent Practitioners (LIPs) from others).
 - Designate hospital and medical staff personnel who attest to the credentials and competency of volunteers and consider data systems that track details of volunteers.
 - Use a “buddy system” to acclimate and incorporate volunteers, while providing a visible sign that authenticates that they are allowed on site, similar to regular staff.
- Maintain open and effective communication, internally and externally:
 - Create a single source of truth for all organizational communications. The existence of social media and health care websites has contributed to an overwhelming volume of information that lacks accuracy, as these are not clinical practice guidelines.
 - Establish guidelines for staff relative to the use of social media and information sharing.
 - Designate a spokesperson for the hospital who manages the release of information to the public and media. Build upon pre-existing policies and plans if necessary.

Seek ways to limit overburdening capacity, including using virtual care for non-emergency services and discharging appropriate patients to other providers and stakeholders by forming local and regional relationships.

iv. Patient Safety and High Reliability

Issue

During a pandemic, and in any high-hazard, complex, stressful environment, patient and staff safety is priority one. High reliability organizations (HROs) have been able to operate for extended periods of time in such situations without serious accidents or catastrophic failures. They accomplish this by relentlessly prioritizing safety over other performance pressures.

Why It Is Important

As a health care organization applying the principles of high reliability matures, it develops certain cultures, processes and operational approaches that apply to its day-to-day activities. When an organization is required to respond to the rapidly evolving challenges of a public health emergency, the safety culture, collaborative practices, empowered problem solving, and leadership engagement inherent to high reliability become even more valuable and serve the mission well.

Considerations

The five principles of high reliability provide a solid foundation for an organization’s preparations to respond as a network of empowered collaborative teams challenged by a rapidly evolving public health emergency. As mature application of the principles is only achieved through a period of sustained organizational commitment, pursuit of high reliability and zero harm should be a foundation for preparedness. Consider the five high reliability principles within the context of response to a public health emergency (see Table 1 below).

Table 2. Five high reliability principles for public health

Principle of High Reliability	Considerations
<p>Highlight Failure</p> 	<ul style="list-style-type: none"> • Risks in provision of care are elevated during surges in demand with augmented staff and non-standard environments. Vigilance and collective mindfulness about safety across the organization, including reporting of small issues before they pose significant risks, are essential to maintain patient and staff safety. • Example action: Institute frequent safety huddles to assess risky situations and discuss near-misses.
<p>Refuse to Simplify Response</p> 	<ul style="list-style-type: none"> • As problems arise during response, pressures escalate to solve problems quickly, often with inaccurate information. In complex organizations, a one-size-fits-all practice is not effective. Expedited evaluation by subject matter experts to identify root causes will improve the probability of effective solutions. • Example action: Communicate frequently with staff to understand unique circumstances and processes within the organization.
<p>Heightened Awareness on Operations</p> 	<ul style="list-style-type: none"> • HROs seek to understand what is happening “on the front lines” at all times. Including frontline workers in the design and deployment of COVID-19 units and giving them the opportunity to contribute to guidelines helps gain the confidence and support of the multi-disciplinary teams and fosters a steady stream of ideas to improve operations and clinical practice. • Example action: In daily huddles, create a heightened awareness as to what systems and processes are providing value and which need to be improved.
<p>Commitment to Resilience</p> 	<ul style="list-style-type: none"> • HROs recognize that despite their best efforts, errors will occur. They learn from such errors and continually engineer processes and systems to prevent further harm. Sustaining a commitment to learning from incidents during response, with expedited analysis by subject matter experts, will have a magnified impact on safety when translated into updated processes for care during surge operations. • Example action: Cultivate a culture of safety and an environment of trust that emphasizes collaboration, communication, and coordination when learning from errors.
<p>Deference to Expertise</p> 	<ul style="list-style-type: none"> • HROs place decision making with the people who have the greatest ability, insight, and knowledge of the issue at hand, regardless of discipline, seniority, or hierarchical position. Response to a crisis generated by an infectious disease of major consequence includes evolution of new knowledge as care is provided. Reliance on experts to assess rapidly evolving information to arrive at adjusted guidance aligns care to best available evidence. • Example action: Capture and document innovations initiated by front-line staff, such as nurses employing digital devices and other means to help patients connect with families and loved ones.

v. Infection Control

Issue

COVID-19 is highly transmissible, has a high mortality rate, and the entire population is susceptible. Given this, it is critical to reduce the spread of infection as much as possible.

Why It Is Important

An effective infection control program aims to prevent infection transmission; protect staff, patients, and visitors; and identify, isolate, and treat infected individuals. Currently, there are no professionally accepted treatment protocols that are considered effective for all COVID-19 patients, so controlling infection spread is the most essential action for organizations and individuals to take.

Considerations

- Designate a single source of truth within the infection prevention department or medical staff for interpreting, monitoring, and updating the latest scientific findings and most relevant guidelines and recommendations for screening and treatment. With novel viruses, such as COVID-19, practitioners are constantly learning new things about the virus’s behavior, transmission routes, and pathology, and it is crucial to keep all staff up to date. Information must be accessible, and versioning must be apparent so that users know what is up to date.
- Make changes to daily routines to promote hygiene and implement source control measures:
 - Screen individuals for symptoms before they enter the organization. Health care personnel with symptoms should be sent home and follow their occupational health protocols. Visitors with symptoms should not be allowed to enter. Patients should be placed in designated isolation areas to await further evaluation.
 - Continue screening patients throughout their hospital stay.
 - Apply appropriate source control measures to reduce transmission, including physical distancing of at least six feet when possible; examples of these are listed in [Appendix B](#). Visitors and patients should wear their own cloth face masks or be provided face masks upon entry. All health care personnel should be using face masks as a measure of source control while in the facility. For areas with moderate to high levels of community transmission or anticipated exposure in low transmission areas, staff should use eye protection in addition to face masks and standard infection prevention and transmission precautions. Use N95 or equivalent type respirators during aerosol generating procedures and for surgeries with higher risk of transmission.
 - Educate staff on the proper use of PPE, particularly on donning and doffing procedures. Post proper sequencing steps for donning and doffing in PPE access areas.
 - Think creatively about ways to protect your environment (for example, redesigning patient placement plans and shared/congregating spaces; installing plumbed sinks and shoe cleaning stations directly outside of entrances with bold signage requiring all to use them before entry).
 - Remember that while source control interventions reduce transmission, they do not entirely prevent it. Hand hygiene remains a best practice as the only method to truly prevent transmission. Ensure an adequate supply of soap and antibacterial solutions, and if necessary, partner with local and regional suppliers that can manufacture these supplies in nontraditional environments such as distilleries. Guidelines for hand hygiene are listed in [Appendix B](#).
- Manage the supply of resources to meet infection control need:
- Account for that, in a pandemic situation, facilities will use greater quantities of PPE, oxygen equipment, and isolation rooms than previously planned, and suppliers will experience service disruptions and delays. Identify who in the organization may contact and expand the supply network in which products (including alternative products) are selected.

It is crucial to ensure staff competency with PPE. Using a trained observer can help avoid procedural breaches that could result in contamination.

- Implement PPE surveillance and work closely with supply chain and suppliers/vendors to ensure adequate supplies. Encourage practices including:
 - Conduct daily counts.
 - Update usage and reuse policies and protocols within safety regulations of specific PPE and other supplies and materials.
 - Measure days of supplies on hand and the days of utilization to which that translates.
 - Use predictive analytics to anticipate the needs for surges.
 - Use full-face respirators vs N95 mask when safely applicable.
- Develop and implement long-term processes for continuously assessing PPE needs. This includes establishing clear communication channels and vendors/suppliers for obtaining PPE needs for both short-term and long-term needs, and in various phases of pandemic.
- Work with SMEs and conduct trainings (e.g., fit test, when to use N95) to ensure clear, evidence-based guidance for the proper use of PPE and proper type needed for various settings to minimize unnecessary use of critical PPE supplies.
- Develop and implement a process for reviewing specific manufacturers' length of use, extended use, reuse, and decontamination protocols for every type of PPE, and know that different vendors may have different limits and protocols.
- Follow CDC's National Institute for Occupational Safety and Health (NIOSH) guidance including:
 - Minimize the number of individuals who need to use respiratory protection through the preferential use of engineering and administrative controls.
 - Use alternatives to N95 respirators (e.g., other classes of filtering facepiece respirators, elastomeric half-mask and full facepiece air purifying respirators, powered air purifying respirators) where feasible.
 - Implement practices allowing extended use and/or limited reuse of N95 respirators.
 - Prioritize the use of N95 respirators for those personnel at the highest risk of contracting or experiencing complications of infection.
- Develop and implement crisis standards of care for decontamination, referring to NIOSH guidance.
- Follow applicable and, as needed, rigorous disinfection and cleaning protocols within the organization:
 - Reassure and train staff in cleaning protocols and products continually.
 - Provide approved cleaning agents for the pathogen, adequate PPE, and instructions in a language understood by the environmental services staff implementing the protocol. Post instructions in easily accessible environmental services staff locations.
 - Consider decontamination and sanitization methods that anticipate a broad range of pathogen transmission (e.g., virus longevity on inanimate surfaces).
 - Monitor room turnover times actively. Room turnover times recommended by the CDC based on air exchanges will impact the availability of beds in addition to delays due to cleaning.
 - Follow new methods for decontamination as they are rapidly evolving. For example, the use of germicidal ultraviolet light has been piloted in New York City subway cars as a means of killing the virus. The efficacy of alternative non-touch methods varies widely, so current recommendations by the Environmental Protection Agency (EPA) are limited to identified surface disinfectants and manual cleaning in health care settings. See the CDC frequently asked questions (FAQ) provided in [Appendix B](#) for more information.
- Acknowledge that response requires a marathon mentality with long term diligence using preventive strategies that are personally uncomfortable (e.g., masking/gowning for prolonged periods).

- Build and support ongoing growth of internal infection prevention and control experts to facilitate preparedness well before an emergency situation arises.

vi. Environment of Care

Issue

Organizations need to provide a safe and supportive environment in which to care for and treat patients and staff.

Why It Is Important

The very nature of an infectious disease like COVID-19 taxes intensive care resources in high density populations and often demands lengthy treatment time using ICU beds, ventilators and medications. This can quickly overwhelm limited care environment availability in a small community that experiences a surge in cases.

Considerations

- Determine ways to increase utilities, resources, and building infrastructure to meet capacity:
 - Understand that negative room pressurization can decrease environmental contamination and the time that a room must remain closed before it can be entered by individuals without respiratory protection. Expanding capacity for airborne isolation and negative pressure areas have been a major challenge to health care organizations that did not have an advanced understanding of their capabilities through an HVA, and those who had not faced other infectious disease outbreaks or epidemics in recent years.
 - Evaluate air circulation exchange rates and the effectiveness of air filters throughout the facility continually.
 - Maintain an adequate supply of medical gasses. During the COVID-19 response, this has proven just as challenging as managing supply of PPE and critical medications in some cases.
 - Enlist an infection preventionist to assist in designing patient and staff traffic flow patterns to provide treatment and service for radiology, surgery and other essential areas.
- Maintain an inventory of equipment needs for internal use and loaner equipment using a regional approach:
 - Implement planned strategies to tap into system, regional, state and federal stockpiles. Know what you are receiving and what ancillary supplies need to accompany equipment for proper use (e.g., a ventilator without connective tubing does not increase capacity).
 - Remember that inspection, testing, and maintenance requirements may involve the use of a waiver for equipment that has not been tested and/or regularly used prior. For critical future reference, document the reason why the waiver is being used and why the organization cannot comply with existing regulation.
 - Develop a system for rationing critical supplies to ensure availability to those most likely to benefit when supplies are critically low. Designate staff to manage suppliers and to streamline control and accountability over delivery deadlines.
- Implement tight safety and security controls:
 - Secure critical medical supplies to prevent diversion and overutilization based on current CDC and organizational guidelines. Some hospitals have used automated dispensing machines, eliminated unrestricted access on units, or implemented designated staff pick up areas to manage supply distribution. If staff have been issued a week's supply of inventory, they will need an area that is secured in the hospital to store their personal stock.

Understanding the organization's capability to expand capacity for airborne isolation and negative pressure areas helps determine the levers available to meet surge needs.

- Plan for sufficient staffing for security teams charged with restricting facility access. The need for additional screening at entry points adds to the staffing needs. Consider contracted security services to enhance current staffing, and consider partnering clinical and security resources and limiting access to the organization for staff and visitors to reduce the staffing and cost burdens.

vii. Alternate Care Sites

Issue

All large-scale health emergencies have the potential to overwhelm local providers and, while planning can and often does occur, the nature and complexity of each individual event is unique. This means that hospitals and/or health systems are limited in their ability to predict or manage patient in-take and bed capacity during events like the COVID-19 pandemic. Depending on the severity of the incident or public health emergency and the availability of community resources, Alternate Care Sites (ACS) as temporary screening and/or isolation locations may need to be established to address increased patient loads.

Why It Is Important

During an emergency, leaders must balance a plethora of urgent issues. Having a plan and mechanism for rapidly establishing an ACS can alleviate some of this burden and serve as an insurance policy to ensure vulnerable populations can be quickly identified and segregated, as necessary, from confirmed, and potentially infected individuals.

A well-organized command structure is essential to ensure effective and efficient deployment and management of an ACS.

Considerations

- Prepare proactively to deploy an ACS if it is needed:
 - Consider several factors when building a command structure, including advanced care planning; coordination of advisors, experts, and public relations/communications personnel; leadership visibility; and effective communication across all relevant stakeholders.
 - Leverage existing operational processes, systems, and norms to the maximum extent possible to expediate its operationalization, as well data collection and analytical modeling data to help inform hospital and community leader decision-making.
 - Assign surge support specifically for project oversight and management reporting services to support the organization’s ability to manage the scale of the project and meet the challenges of the project delivery process.
 - Use existing planning guidelines available from public and private sources, like those provided in [Appendix B](#).
- Manage ACS staffing and resources appropriately:
 - Leverage new and novel supply chain, logistics, and staff planning and coordination to ensure that an ACS can be activated quickly and provide effective and efficient care. New approaches may include using allied health staff, health professionals in training, and retired professionals.
 - Community-tailor ACS options for local requirements, including the provider’s current supply and demand facilities, as well as the availability and accessibility of local options (including existing facilities) for ACS adaptation.

viii. Virtual Health

Issue

Telehealth and other virtual health services have seen sudden explosive growth, driven by drastic limitations in access to face-to-face care, and CMS 1135 waivers which create unprecedented allowances for reimbursement, licensure, and documentation.

Why It Is Important

Virtual services will assuredly continue beyond the crisis period at greater scale, since they are patient satisfiers and allow opportunities for increased efficiency and access to care, conservation of resources, and innovation beyond face-to-face care. Virtual health services expand access to care and reach patients in rural areas and outside the normal care delivery system. Virtual health services may also improve clinical workflows and increase efficiency through quicker prioritization of care delivery and improved communications.

Considerations

- Define appropriate virtual health mechanisms:
 - Understand when an audio-only interaction may suffice, and define which procedures, diagnostics, or evaluations will need video interactions.
 - Remember that many people do not have enough broadband in their homes for video connection, but still need to contact a provider for help. The broadband capabilities of health care organizations can be strained also.
- Implement telehealth services:
 - Determine the extent, effectiveness, and safety and quality considerations of virtual health services post COVID-19. Adopt a comprehensive, long-term virtual health strategy that elevates both patient and provider experiences with thoughtful approaches to the transition of care from the care facility to the home.
 - Plan, budget and design virtual health services and reallocation of resources, and orient and train staff on any newly provided virtual health services and systems. Virtual care can allow for more-flexible provider schedules over time, permitting clinicians to provide some care from outside of their in-person practices if they wish.
 - Define staffing needs. The exponential growth of virtual health demand requires systems for training and surge capacity.
 - Monitor and follow the latest regulatory guidance in this evolving field.
 - Note that HHS and CMS have released guidance for telehealth services during COVID-19, which are included in [Appendix B](#).
- Carefully manage risks:
 - Place special focus on risk points: information security, patient safety, documentation, clinical practice guidelines, and the management of contracted virtual health services.
 - Remember to regularly clean and disinfect technology used for virtual health or general communication that is shared between two or more individuals.

The efficiency of virtual health care can ease workloads and reduce stress, an important factor in helping alleviate widespread clinician burnout.

ix. Interim Regulatory Changes for Virtual Health

Issue

Under special circumstances, the HHS Secretary can provide interim regulatory changes, particularly for virtual health. Using Section 1135 of the *Social Security Act*, can temporarily modify or waive certain Medicare, Medicaid, Children’s Health Insurance Program (CHIP), or *Health Insurance Portability and Accountability Act (HIPAA)* requirements using “1135 waivers.” The Centers for Medicare and Medicaid Services (CMS) can issue blanket waivers when a determination has been made that all similarly situated providers need such a waiver, or CMS can issue a waiver in response to an individual health care provider based on a submitted request. CMS has also waived certain requirements of the *Coronavirus Aid, Relief, and Economic Security (CARES) Act*, which specifies the types of practitioners that may bill for their services when furnished as Medicare telehealth services and the use of telecommunications systems.

Why It Is Important

Waivers can significantly expand the potential solutions available to health care providers. For example, a waiver enabled the redirection of patients to receive medical screening examinations in alternative locations per *Emergency Medical Treatment and Labor Act (EMTALA)* medical services. Organizations and staff should understand all aspects of the current CMS waivers and the overall push for alternative health care delivery options, such as virtual care, including differences in federal and state requirements. It is also important that organizations understand time limits of the CMS 1135 waiver to ensure that they are prepared to return to original requirements.

Considerations

- Be up to date with waiver guidelines:
 - Refer to the CMS 1135 waiver resource site included in [Appendix B](#) frequently for the latest updates
 - Understand that the 1135 waiver authority applies only to federal requirements and does not apply to state requirements for licensure or their conditions of participation
- Plan appropriately around the waiver timelines:
 - Be aware that since 1135 waivers require both a declaration of a public health emergency and a disaster or national emergency, if one emergency declaration ends (e.g., if the public health emergency ends but the disaster or national emergency continues), the 1135 waivers end. Have a strategic plan and processes in place to return to original requirements when the waiver ends or when conditions allow you to address them.
 - Note that CMS 1135 waivers end no later than the termination of the emergency period, or 60 days from the date the waiver or modification is first published.

x. Backlog Demands

Issue

To halt the spread of COVID-19, many hospitals, health systems, and providers postponed elective and non-emergency patient procedures. While necessary to address the immediate risk posed by the virus, these actions have created new challenges. There is now a significant backlog of care throughout our health systems that, if not managed correctly, has the potential to overwhelm our existing capacity.

Why It Is Important

Health systems, hospitals and providers must have a measured, prioritized plan for addressing their deferred patient care, while minimizing the potential for exposure to COVID-19. They must communicate clearly with their patients and the communities they

Poorly managed backlogs can have long-term implications for patients whose non-acute conditions have subsequently been exacerbated, many of whom will continue to avoid treatment for fear of exposure to COVID-19.

serve on the safety procedures and precautions that they are taking to minimize exposure. Additionally, health care leaders must view the backlog as more than a financial optimization exercise and acknowledge the underlying issues of equity and access for those patients who may have greatest needs and lowest ability to pay. Addressing backlog demand in this way will improve resiliency for future emergencies by optimizing resources and ensuring patient access, satisfaction, and trust.

Considerations

- Develop a localized or regionalized model for the resumption of elective and non-emergency medical procedures and services that is based on established standards, such as the Joint Statement: Roadmap for Resuming Elective Surgery after COVID-19 Pandemic, located in [Appendix B](#), that was authored by the American College of Surgeons, American Society of Anesthesiologists, Association of Perioperative Registered Nurses, and American Hospital Association.
- Understand the local facility capabilities (e.g., bed availability, testing capacity, operating room access/readiness, PPE inventory levels), as well as potential constraints (e.g., workforce, supply chain). This assessment of current capabilities on a regular basis will allow for resumption planning accordingly to ensure efficient backlog demand management.
- Monitor and consider local COVID-19 testing availability and lab result times, and craft appropriate testing policies for patients (e.g., pre-operative testing of patients scheduled for surgery), facility and staff (e.g., screening and testing guidance).
- Think about utilizing advanced analytics to assess the incidence of disease and local community risk factors, and to conduct readiness analyses around ramp-up/ramp-down feasibility that will inform planning and direction for the resumption and sustainment of safe patient care.
- Consider conducting scenario planning of both deferred care backlog and anticipated future demand using objective priority scoring.
- Develop a tactical plan to address current demand in alignment with facility capacity and ramp-up/ramp-down scenarios.
- Prioritize non-emergency medical procedures and services based on case type, urgency, and patient comorbidities.
- Review the supporting infrastructure required (e.g., human resources, bed capacity, patient demand, support services) to enable ramp-up/ramp-down scenarios and inform policies and procedures.
- Review and consider developing or revising, monitoring, and measuring facility-specific safety status. Collect feedback on current patient and employee safety concerns and adjust approaches accordingly.

xi. Supply Chain

Issue

Many health care organizations experienced severe shortages of critical personal protective equipment as the incidence of COVID-19 cases grew. This left both employees and the population at greater risk of acquiring COVID-19 and in the future has the potential to be a material limiting factor on access to care.

Why It Is Important

A significant lack of personal protective equipment can put staff, patients, and other populations at risk due to increased unmediated exposure to the virus. In addition to exposure, weak supply chains can even delay necessary care to patients, which will in turn further exacerbate infection rates and medical conditions.

Considerations

- Define and assess a range of potential future emergencies (e.g., nuclear event, biological event, respiratory pandemic) and their impact on the organization supply chain:
 - Identify a set of disruption scenarios to test.
 - Determine affected stock items and supply chains.

- Estimate expected degree and duration of each potential supply chain disruption.
- Define aggregate surge requirement profile that best supports range of disruptions.
- Develop and implement inventory strategies to help meet demand for response efforts:
 - Use event scenario models to identify and quantify potential demand.
 - Evaluate anticipated material burn rates and ability of local and national inventories (current inventory strategy) to sustain operations, which include:
 - Creating inventories of all supplies,
 - Estimating the duration of inventories,
 - Identifying all gaps in material, and
 - Considering using a Burn Rate Calculator, such as the CDC-developed model referenced in [Appendix B](#).
 - Establish revised inventory strategy establishing stocking units, locations, and expiry management (what, how much, how managed, by whom):
 - Remember that if you are accountable for patient care, you are accountable to ensure inventory of critical supplies, held either in your own safety stock in your controlled facilities or as committed reserves held by GPOs and distributors. If GPOs, distributors, or others are reserving stock, you must ensure the legal and physical controls are in place for the stocks to be there when emergency demand occurs.
 - Consider vendor-managed inventory to manage inventory and expiry.
- Establish category supply strategies that balance cost with supply agility and resilience:
 - Define how many suppliers are required by category and geographic location (offshore, near shore, onshore), including traditional and non-traditional suppliers.
 - Identify, in advance, potential substitute items and supply sources.
- Consider additive and advanced manufacturing, such as 3-D printing, to quickly produce necessary supplies to capture demand:
 - Identify and qualify potential items for additive manufacture.
 - Create cost/benefit models for additive manufacturing as compared to traditional supply sources.
 - Develop and gain approval of required digital design and manufacturing data (digital inventory).
 - Acquire access to additive manufacturing capacity either directly or through ecosystem partnerships.
- Develop proactive, ongoing supply-base quality and risk assessment capabilities:
 - Be prepared to conduct quality reviews on new prospective suppliers and supplies:
 - Establish and confirm, in advance of need, the online and front-line capabilities needed to quickly and effectively qualify new, unknown suppliers and supply sources.
 - Confirm that all supplies meet appropriate quality standards, especially those from new companies entering the medical supply market.
- Conduct periodic risk assessments of the supply base to identify and prioritize risks and take targeted mitigation actions:
 - Address risks including financial, geographic concentration, geopolitical, cyber, counterfeiting, labor, and conflict minerals.

By expanding suppliers through partnerships and collaborations beyond the traditional sources, organizations can improve access to supplies and create more resilient supply chains.

- Develop and implement supply chain visibility and control tools to enable supply demand planning, allocation, distribution, and order management during crisis surges:
 - Test system surge support capabilities regularly and in advance of need.
 - Allow for reliable feedback mechanisms for critical supplies that fall below threshold levels. Critical supplies for COVID-19 should include N95 respirators, procedural or surgical masks, N95 masks, gloves, other PPE (e.g., face shields, face masks, gowns, etc.), and ventilating supplies.
- Refer to the CDC Supply Chain Disaster Preparedness Manual and HHS resource on Partnering with the Health Care Supply Chain During Disasters, which are located in [Appendix B](#).

xii. Financial Support and Sustainability

Issue

The COVID-19 health crisis has been accompanied by a significant economic crisis in the health care industry. In addition to the substantial reduction in revenue due to COVID-19, health care organizations must address the surging demands for unplanned health care services.

Why It Is Important

If organizations can proactively prepare for pandemic response efforts, they can more easily plan for various economic stressors.

Considerations

- Institute management practices to address economic factors that are impacting care delivery:
 - Establish a Recovery Financial Team with billing, revenue, and other functions.
 - Consider designating and supporting a financial section chief focusing on COVID-19 efforts.
- Anticipate and track economic impacts to delivery:
 - Develop ways to further incorporate the financial intricacies of COVID-19 into provider financial systems and processes.
 - Use data-driven analytics, if available, to identify where support is most needed.
 - Review supply chain risks continuously and consider resolving issues while cross-collaborating with supply chain leads and other stakeholders.
 - Identify unmet needs during recovery to prioritize and potentially apply for future funds.
 - Think through various economic scenarios for recovery and consider monitoring and creating plans to adapt to those scenarios.
 - Consider developing or editing and deploying fiscal support for communities facing liquidity issues during recovery. Review and revise these regularly based on most recent available information and forecasts.
- Collaborate with other organizations that are also managing economic crises related to the pandemic:
 - Collaborate with federal, state, local government teams to share lessons learned and comply with any regulations.
 - Think about building partnerships that may be able to assist.
 - Monitor federal, state and local policies that focus on economic policies and processes.
 - Consider consulting with Human Resources (HR) regarding any pay considerations.

Strong financial decisions
by leaders will support
quicker economic
recovery, which will lead to
enhanced care delivery,
minimized job loss, and
potential job creation.

III.Surveillance: Data Surveillance and Contact Tracing

Surveillance is the ongoing, systematic collection, analysis, and interpretation of data essential to planning, implementation, and evaluation of public health efforts and care delivery.

i. Data Surveillance

Issue

A variety of data are collected around the COVID-19 pandemic, including patient data on impacted subpopulations, disease surveillance, and supply chain logistics. Often, these data are incomplete, unidirectional (from health system to public health agency) and inadequate to provide effective and timely insight into what is happening on a larger scale. Accurate and timely data capture provides information which inform COVID-19 recovery efforts.

Why It Is Important

Leaders must prioritize data collection and management capacity (i.e., infrastructure, best practices, data governance) to support efficient recovery efforts. This is required to create standardized, interoperable clinical data sets that can enhance the ability of health ecosystems players to be better positioned to manage through the pandemic effectively. In addition, organizations need to focus on security of all data, allowing for secure exchange and integration with existing disease surveillance and health data systems and third-party providers. Finally, organizations must take the time to analyze and understand collected data to identify where support is most needed; make real-time, data-driven decisions; and conduct modeling to prepare for future waves or other pandemics.

Considerations

- Develop data management capabilities:
 - Develop ways to use data and information to plan and execute recovery in the current environment.
 - Utilize data models that include population implementation of COVID-19 safety precautions (social distancing and use of masks) to estimate continued COVID-19 prevalence.
 - Incorporate data on Drivers of Health to assist in a full and equitable recovery of the population.
 - Build in store and forward capabilities to ensure accuracy in data collection.
 - Evaluate the option of developing an enhanced data hub to centralize data inputs across capacity planning, revenue generation, and operations, including a more user-friendly data repository dashboard with enhanced filtering capabilities.
 - Review employee health and safety event reporting policies, processes, and data system functions to promote consistent reporting and usefulness of data available for analysis.
 - Support the secure exchange of COVID-19 related data:
 - Confirm that data collection systems are compliant with the Federal Risk and Authorization Management Program (FedRAMP). Facilitate data-driven information exchange, coordination, and dissemination across all users.

Internal and external data should be used in conjunction to properly respond to the pandemic.

- Enable proven data security protocols in data collection methods and data transfer between organizations that protect the viability of the system and the patients.
- Analyze data to inform response and recovery efforts:
 - Incentivize partners and patients in data collection to ensure that data is the most meaningful.
 - Reframe data collection and focus on human-centered experience to enhance consumer buy-in to help save lives and improve care.
 - Track recovery data and key performance indicators daily, if possible.
 - Consider creating alternative modalities for more effective and efficient collecting and analyzing data; near real-time preferred.
 - Form new, ongoing metrics to better understand how the available data, or newfound data, can impact both current and future operations and care modalities.
 - Develop data performance metrics to evaluate efficiency and effectiveness.
- Use existing, open-source tools and systems to aid in data collection, management, and analysis. A list of these is provided in [Appendix B](#):
 - CDC COVID-19 Cases, Data, and Surveillance.
 - CDC COVID-19 View.
 - COVID-19 Tracking Project.
 - ASPR Technical Resources, Assistance Center, and Information Exchange (TRACIE) Health Care Coalition Surge Estimator Tool: Hospital Data Collection Form.
 - FEMA Mitigation Support Tool (note that users will need .gov or .mil email addresses to access the tool).

ii. Contact Tracing

Issue

COVID-19 is easily transmitted between people, leading to a rapid spread and incidence in cases globally. This disease transmission can be stopped by identifying cases and their contacts quickly and getting them to limit or stop their contact with other people while they're infectious. The use of real-time data and analytics processes will further assist efforts to limit the spread of the virus.

Why It Is Important

An integrated approach to contact tracing could trace COVID-19 contacts through automated case management and data analytics by public health entities, community partners, and government agencies. This will enable regional, local, and public health organizations to efficiently collect information on tracking and conduct follow up. This approach also allows users to report and receive follow up guidance.

Considerations

- Use an integrated approach to design the contact tracing methodology and program:
 - Use organizational priorities to direct time and effort of these functions to the success of contact tracing programs.
 - Design a contact tracing system that supports quick identification and action:
 - Respond quickly as the disease can be transmitted regardless of whether a person is symptomatic or asymptomatic.
 - Acknowledge the many processes and resources required to trace, contact, and isolate all individuals who may have been exposed to the virus over a two-week period, particularly those who were in public settings.
 - Consider whether to centralize or decentralize the contact tracing program, including reporting structures, call centers, personnel, data collection, and program budget.
 - Be aware that collaboration between federal, state and local stakeholders may highlight best practices and innovations for contact tracing, particularly when there are finite resources in a community.
 - Reference the CDC-provided resource for criteria to evaluate technology capabilities, which is in [Appendix B](#).
- Ensure that the workforce is trained on contact tracing operability:
 - Ensure that staff are familiar with the concepts of communicable disease investigation and tracing. Added effectiveness comes with oversight, appropriate language skills, understanding of cultures, familiarity with local communities, and access to medical and social support resources
 - Standardize contact tracing training for all personnel and focus across knowledge and skills ranging from functional, technical, and soft skill areas to make sure staff are sufficiently prepared for their roles. Competency in soft skills cannot be understated since it will directly help in acquiring accurate information from cases and influence cases and contacts to adhere to prescribed behaviors for minimizing COVID-19 spread
 - Have written policies and procedures for investigations, including interview guides and call scripts, to improve the efficiency and uniformity of investigations

Enabling functions including HR support, IT capabilities, data analytics, and marketing and outreach are integral parts of contact tracing efforts.

IV. Workforce

Issue

The response to COVID-19 brought substantial professional, personal, social, and emotional challenges to most people involved. Provider resiliency can be enhanced by targeting the needs of health care professionals and staff, essential service employees, administrative staff, and leadership. Special planning by the organization will help employees maximize personal resilience and professional performance while maintaining a common goal of managing through and ultimately recovering from the COVID-19 crisis.

Why It Is Important

During and beyond the crisis period, workforce support will maximize employee retention and maintain a highly functioning organization which can respond more aptly to COVID-19 and future public health emergencies. Focusing on exceptional communications and the mental health of both health professionals and their families will decrease the chances of a workforce reduction due to occupational and mental health fatigue. Targeted policies and actions will increase readiness for future developments and circumstances that will once again challenge workforce capabilities and impact operations.

Considerations

- Provide staff with an environment where they feel their safety at work is of utmost importance to the organization:
 - Provide ongoing support for basic needs such as food, adequate hydration and breaks and consider temporary housing options to limit infection risk to staff relatives, as appropriate.
 - Consider implementing policies, operations, or practices that promote social distancing in the workplace and common gathering areas:
 - Consider new norms for greetings, meetings, and collaboration.
 - Revisit personnel guidelines and add guidance for those with serious underlying medical conditions and those who are symptomatic or tested positive for COVID-19:
 - Consider return to work guidelines for those who tested positive.
 - Protect anonymity to the maximum extent possible.
 - Prevent unexpected changes in processes that can add stress and uncertainty to daily work environments, and design new processes to minimize frustration and anxiety.
 - Respect employees' time off periods as an opportunity to "recharge." Communications should be limited to during this time.
- Maximize flexibility to optimize workforce support and maintain continuity of operations:
 - Update or implement telework guidelines and reporting, as needed, to maximize telework flexibilities that provide an appropriate and safe working environment and support workers in higher risk populations:
 - Provide guidelines and circumstances for maximum telework days versus mandatory telework days.

Providing ongoing psychosocial and wellbeing support services for employees and their families involved in the response to public health emergencies can enhance the employee's ability to cope with high-stress environment.

- Consider updating or implementing Human Resources/Administrative Leave Guidance that enables full recovery for employees who test positive and reduces exposure to other employees. Foster an environment where staff feel empowered to stay home and work when exhibiting signs and symptoms of illnesses that resemble COVID-19 (e.g., cold, flu, fever).
- Consider travel limitations based on mission needs and federal and state guidelines.
- Review resources available to provide employee health services and consider revising policies and procedures to strengthen capacity to support crisis impacts on staff, if applicable.
- Elevate the importance of communications and mental wellness of each health professional and their families by prioritizing exceptional communication strategies; for example, utilizing ongoing update(s) by phone or social media from trusted sources to each worker and their families.
- Provide logistical support (i.e., hotel accommodations, temporary housing, supplies for home decontamination routines, etc.) and communication mediums for health professionals to properly distance from each other and their families when off-shift, with the aim of establishing safe interaction with loved ones and coworkers and avoiding panic and mental stress that could lead to decreased workforce.
- Develop a phased approach for returning staff to the workplace that proceeds gradually until reaching unrestricted staffing of worksites.
- Follow relevant linkages with the CARES Act Provider Relief Fund, which has a wide array of provisions to support providers and the health care workforce.
- Create COVID-19 education and training plan(s) focused heavily on driving recovery for various health care personnel and communities:
 - Collaborate across stakeholders and interdisciplinary teams at the facility(s) to develop, coordinate, and participate in a training program that is multifaceted, virtual, educational, such as those provided in [Appendix B](#). These training programs should focus on the elements of the recovery program and present any applicable federal statutes and state regulations.
 - Prioritize outreach communications to families of health personnel to minimize impact to the workforce.
 - Use tele-education webinars on established platforms, such as those provided in [Appendix B](#).
 - Refer to available trainings for health care professionals, many involving executing contact tracing plans, such as those provided in [Appendix B](#).

i. Communications and Change Management

Issue

The COVID-19 “new normal” includes social distancing, safety precautions, and operational changes to maintain or restart operations and provide patients and staff with a feeling of safety and security.

Why It Is Important

A thoughtful communications and change management plan will help lay the path for employees to adopt changes and maximize personal resilience and professional performance to thrive in the “new normal” future state.

Considerations

- Develop a communication strategy and plan that accounts for all stakeholders, uses the best modes of delivery, considers the human and individual experience, and encourages engagement with the audience:
 - Use appropriate communication channels to funnel information across the organization.

The continuing fallout from COVID-19 necessitates a “new normal” for the workplace.

- Encourage two-way communications across communities, not just one-way pushes of information.
- Solicit and incorporate suggestions from staff to gain buy-in with changes:
 - Listen openly to staff concerns and approach discussions with empathy.
- Think about developing a communication plan to identify different stakeholders and the messaging to target those audiences.
- Coordinate messaging with leadership endorsement to showcase leadership buy-in.
- Maintain communication with representative groups for constant feedback on messaging and operational changes.
- Encourage innovation and the use of technology to address some of the barriers to old processes and move staff and patients into the “new normal”:
 - Implement new telehealth options as a “new normal,” when applicable, versus returning to previous processes and environments.
 - Provide guidance on applying innovation and new processes across the community while incorporating the new environment needs and processes.
 - Leverage technology to help services perform as efficiently and effectively as possible.
 - Maximize telehealth modalities and required education/training to aid in executing communication.
 - Incorporate new technologies and strategies that allow for remote registration check-in throughout the health care system, which limit lines and helps promote adequate social distancing.
- Adopt methods that encourage patient and staff confidence in the organization’s response to the current climate and the path forward:
 - Inform patients and staff of measures already taken to convey commitment to cleanliness. Proactive and specific communications can give patients and staff confidence that the environment is clean and safe for providing and receiving care.
 - Reference CDC guidelines and recommendations regarding quarantine and safety practices to establish credibility with guidance and provide added external resources for staff.
 - Develop staff training for new processes to encourage understanding and confidence in the new methods, and to document that training was completed and effective.
- Monitor progress toward adopting the “new normal,” and create a governance and accountability structure to ensure adoption:
 - Confirm who will be accountable for change areas and topics to promote long-lasting adoption of the changes.
 - Consider developing data dashboards that can provide reporting statuses and key data points and trends that are accessible for the community to monitor.
- In the interest of change acceptance, promote and monitor mental wellbeing of staff.

Change can add stress and uncertainty to daily work environments, and new processes may cause frustration and anxiety across the workforce.

ii. Mental Wellness

Issue

Health care providers and staff are facing unprecedented strains during the public health emergency, including isolation from family due to COVID-19 exposure concerns, working longer shifts under challenging conditions, and worrying for their own safety if PPE is limited. Many health care workers are also playing a supportive role for ill and dying patients due to visitor restrictions at hospitals, putting them in an emotionally taxing position. Additionally, health care professionals are coping with grief related to the loss of patients and their own family members.

Why it is Important

As COVID-19-related stressors increase, health care professionals are at increased risk for stress and burnout. Health care systems should prepare to provide increased psychological health support to staff, especially clinicians who often fear engaging in mental health services because of concerns that seeking treatment could impact their career.

Considerations

- Promote mental health and wellbeing as a part of organizational culture, and monitor it as an integral component for organizational health:
 - Adopt an organizational culture of care, safety, and respect for patients and co-workers.
 - Implement a framework to provide additional leadership contact during periods of increased demand on the health care system. Initiatives include debriefs with staff about the psychological impact of the pandemic response, validating emotional experiences, and walking about to check-in with and support staff during shifts.
 - Consider adopting initiatives such as distilling and disseminating new research and clinical guidance to providers in an easy-to-access format, strategically identifying opportunities for staff to participate in operational decision making and increasing aid from support staff.
 - Promote and monitor staff wellbeing by considering strategies such as: regularly communicating with staff about wellness; modeling behaviors that promote monitoring one’s own wellness; encouraging peer support; sharing positive feedback from patients, families, and peers; and orienting staff to mental health resources.
 - Consider professional staffing support or expanding scope of current mental health support staff.
 - Convert areas of the hospital into decompression rooms, involving quiet areas with food, low lighting.
 - Provide mental health resources, promote access to mental health needs, and remove stigmatization for seeking self-care:
 - Consider messaging that destigmatizes the need to seek behavioral health resources.
 - Consider having leadership provide examples on how they pursue mental wellness (e.g., “I recharge by ... walking my dog, planting in my garden, exercising”).
 - Reference [Appendix B](#) for multiple resources that can help health care organizations promote mental wellness among employees and patients.

- Deliver focused training initiatives to equip staff to support their patients and themselves during periods of increased psychological distress.
 - Develop educational resources on early identification and intervention for potential emotional responses to pandemics (e.g., depression, anxiety, physiological reactions, posttraumatic stress disorder).
 - Train health care providers to screen for and refer to specialty treatment for mental health and substance use conditions that may increase during national crises, including domestic violence; increased alcohol, opioid, and illicit drug use; and mood disorders.
 - Enhance or implement training and awareness for trauma-informed care.
 - Consider including training to recognize or assess for trauma coming from abuse, violence, or other life events.
 - Consider comprehensive education and training programs to include an overview, signs and symptoms, a self-assessment questionnaire, self-care and preventive plans, and added resources.

Seek ways to reduce unnecessary cognitive burden for health care providers to allow them to focus on delivering quality care to patients.

V. Community Engagement

i. Disparities and Drivers of Health

Issue

Drivers of health, the conditions in which people live, learn, work, and play have a significant impact on health risks and health outcomes. Even before COVID-19, up to a quarter of commercially insured individuals struggled to meet their basic needs including food, housing, childcare, a stable job. COVID-19 has placed a renewed emphasis on the connection between drivers of health and health outcomes, including the disproportionate impact of COVID-19 on certain populations, such as low-income individuals and communities of color. Organizations need to consider cross-collaborating to account for cultural and local necessities for all members of the community.

Why It Is Important

Reaching out to population segments in the community to build the trust needed to engage them, coupled with building a collaborative environment across different health systems, aids the success of recovery efforts and long-term goals of adopting the “new normal.”

Considerations

- Assess current status of each individual community, looking at current resources, challenges, and risks.
- Understand and address unmet social needs of employees, patients, and families:
 - Develop plans to provide more accessible services to communities at elevated risk. Goals include reducing health care costs and/or designing programs and interventions to meet unmet social needs (e.g., food insecurity, housing instability). This is a long-term effort but can be initiated by screening employee involvement within one’s own organization.
- Make changes to enable and incentivize investments in patient health:
 - For Payers: Advocate for adjustments to the medical loss ratio, so that investments in the “drivers of health” (food, housing, transportation, etc.) can be incentivized.
 - For Payers: Incorporate drivers of health into internal actuarial models.
 - For Providers: Advocate for adjustments to quality metrics to include drivers of health.

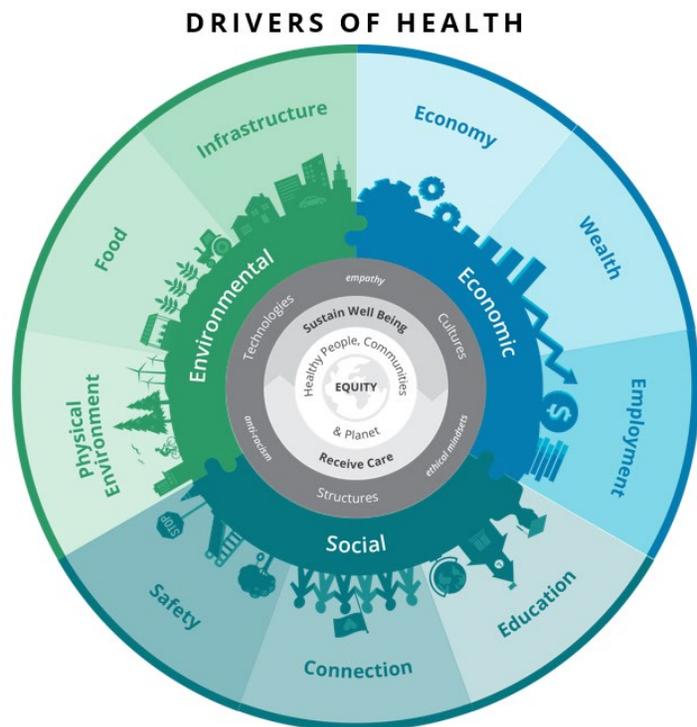


Figure 3. Deloitte Drivers of Health Framework: Social and environmental factors that influence health outcomes

- Collaborate with the community:
 - Align investments in drivers of health with other public, private, and philanthropic dollars to produce sustainable positive economic impact in the local community (e.g., long-term community wealth creation).
 - Consider the ability for community-based organizations to metabolize a large influx of funding.
- Adapt existing policies and programs:
 - Incentivize the design and implementation of programs that support critical services and supports during COVID-19, such housing and nutrition interventions that will provide immediate relief to members (e.g. food vouchers, medically tailored meals, one-time rent payments).
 - Consider the bandwidth and resource constraints of social service and community-based organizations to support new programs.
- Identify and address disparities in access:
 - Leverage existing data from trusted sources to address disparities in access to care, and use the results to develop strategies to make new and existing programs more equitable.
- Account for difficulties and unique situations during times of quarantine and isolation such as access to food, medicines, and other support.
- Think about design for testing and tracing that also accounts for factors pertinent to the community. For example, a drive-through testing center is not accessible if a person relies on public transportation.

By investing in addressing broader, underlying issues, organizations can improve health outcomes and slow the spread of disease.

VI. Resources

i. Appendix A: Public Health Emergency Support Organizations

Agency	Purpose
Assistant Secretary for Preparedness and Response (ASPR)	Office within the U.S. Department of Health and Human Services (HHS) that oversees the nation’s public health and medical infrastructure and capabilities necessary to respond rapidly to disasters. It supports readiness at the state/local/territorial/tribal levels. ASPR enhances national surge capacity and oversee medical countermeasures. It also provides the information pertaining to the declaration of a public health emergency.
Centers for Medicare and Medicaid Services (CMS)	Agency within HHS that administers the Medicare program and works with states to administer Medicaid. During a public health emergency, CMS may waive certain Medicare, Medicaid, CHIP and other requirements to allow organizations greater flexibility to respond. Also, CMS will issue guidance and tools to help organizations navigate the emergency.
Centers for Disease Control and Prevention (CDC)	Agency within HHS that protects the public health and safety through control and prevention of disease and injury. During a public health emergency related to an infectious disease, CDC collects epidemiologic information and issues guidance for the response by health care organizations, health care personnel, and the community. It also provides guidance on the appropriate use of PPE.
Food and Drug Administration (FDA)	Agency within HHS that is responsible for the safety oversight of devices and drugs, among other products. FDA may update guidance and/or issue emergency use authorizations during a public health emergency to address supply chain issues and expedite the approval of tests, drugs, and equipment to ensure that critical needs are met. CMS may refer to FDA guidance in CMS regulations or guidance.
Occupational Safety and Health Administration (OSHA)	Agency of the Department of Labor responsible for ensuring safe working conditions. During a public health emergency, OSHA may update guidance and/or regulations. OSHA guidance and regulation may refer to recommendations from CDC and FDA. OSHA will also handle worker complaints, particularly around issues like adequate supplies of PPE.
Cybersecurity and Infrastructure Security Agency (CISA)	Part of the Department of Homeland Security that brings partners in the industry and the federal government together to prepare for possible disruptions in critical infrastructure. CISA holds regulatory calls to discuss issues such as supply chain shortages, among other items.
National Institute for Occupational Safety (NIOSH)	Federal agency that researches and issues recommendations for the prevention of work-related injuries. Recommendations issued by NIOSH are often used by other agencies responsible for enforcing workplace safety and health regulations. During the coronavirus pandemic, NIOSH issued many recommendations to ensure safety in health care workplace settings.

ii. Appendix B: External Resources

Resource	Purpose
JCR Coronavirus (COVID-19) Resources	Collection of useful, vetted references and latest guidance on COVID-19 response
Food and Drug Administration (FDA) Mask Protocols	Resources on face masks and surgical masks for COVID-19
CDC Infection Prevention and Control Recommendations CDC COVID-19 Frequently Asked Questions	Guidelines and recommendations for managing infection control
CDC Workplace Decision Tool	Guidelines from the CDC on how to manage your organization to minimize impacts of COVID-19
Establishing an Alternate Care Site	Deloitte thought paper that provides example steps and considerations to standup an alternate care site
Identification of Health Care Workers (HCW) and Inpatients with Suspected COVID-19	Training document to identify or screen health care workers or inpatients
Cultural Competence in Preparedness Planning	Training document to help organizations understand and address the disproportionate impact of a pandemic on different cultural backgrounds
ECHO Institute at the University of New Mexico's Health Science Center Sessions	Training materials for managing COVID-19 in rural areas with limited resources
Division of Diabetes Treatment and Prevention Webinar: Caring for Elders Through Time of COVID-19	Training materials to manage COVID-19 among older populations
CDC Community Outreach and Communication Activity (COCA) webinars	Resources that informs clinicians on how to communicate and educate on public health emergencies
CDC COVID-19 Training for Health Care Professionals	Training materials for managing COVID-19 in a health care setting
Association of State and Territorial Health Officials (ASTHO) on Contact Tracing CDC Contact Tracing Johns Hopkins Online Training Coursera COVID-19 Contact Tracing	Training materials for understanding contact tracing
HHS Telehealth: Delivering Care Safely During COVID-19 CMS Coronavirus (COVID-19) Partner Toolkit	Guidance on virtual telehealth services provided by HHS and CMS
CMS Emergency Preparedness & Response Operations Coronavirus Waivers	Resources and information on CMS waivers and flexibilities for health care providers.
Joint Statement: Roadmap for Resuming Elective Surgery after COVID-19 Pandemic	Considerations for resuming elective and non-emergency medical procedures
Burn Rate Calculator	CDC-developed model used to plan and optimize the use of PPE for COVID-19 response
CDC Supply Chain Disaster Preparedness Manual	Information on how to identify hazard scenarios and develop supply-chain related plans to respond to these
HHS Partnering with the Health Care Supply Chain During Disasters	Overview of emergency planning and response considerations associated with health care supply chain, including how health care organizations can effectively partner with health care supply chain partners
CDC Cases, Data, and Surveillance COVID View	Repository and summary analysis reports of COVID-19 related data collected by the CDC
COVID-19 Tracking Project	Volunteer project that collects and publishes COVID-19 data

Resource	Purpose
ASPR TRACIE Health Care Coalition Surge Estimator Tool	Tool that allows health care organizations to understand capacity to accommodate usual or surge capacity, and plan for specific scenarios
FEMA Community Mitigation Decision Support Tool	Tool that allows officials to view data related to COVID-19, or other pandemic illness, and determine if and how community mitigation should be adjusted. Users will need a .gov or .mil email address to access the tool
Digital Contact Tracing Tools for COVID-19 CDC Preliminary Criteria for the Evaluation of Digital Contact Tracing Tools for COVID-19	Overview of the types of digital tools used for contact tracing and criteria for selection
CDC Stress and Coping HHS Mental and Behavioral Health Resources Substance Abuse and Mental Health Services Administration (SAMHSA) Coronavirus Guidance SAMHSA Disaster Technical Assistance Center (DTAC) VA Psychological First Aid Training IHS Tele-Education COVID-19 Webinars ASPR TRACIE COVID-19 Behavioral Health Resources	Resources on coping with stress and reducing stigma around COVID-19
CDC Tools for Putting Social Determinants of Health into Action	Repository of tools used to understand drivers of health that impact population health
CDC Managing Visitors CDC Recommendations for Community Facilities	Guidelines for managing visitors and setting up community facilities during a pandemic
CDC Cloth Face Covers Educational and Outreach Materials Resources for Your Home and Community	Various educational resources for COVID-19
The Fullest Look Yet at the Racial Inequity of Coronavirus Addressing Unmet Basic Resource Needs as Part of Chronic Cardiometabolic Disease Management	Information on drivers of health and the impact of COVID-19

VII. Conclusion

Despite efforts to prevent the spread of COVID-19 and treat those infected, the pandemic will continue for months and the availability of a vaccine will be limited. On a daily basis, health care leaders must consistently track and improve many areas of care delivery and public health that both influence and are impacted by COVID-19. Timely access to best practices and lessons learned, across various health systems components, data surveillance, workforce issues, community engagement and other areas, will enhance their ability to lead organizations through recovery and be fully prepared for the next crisis.



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