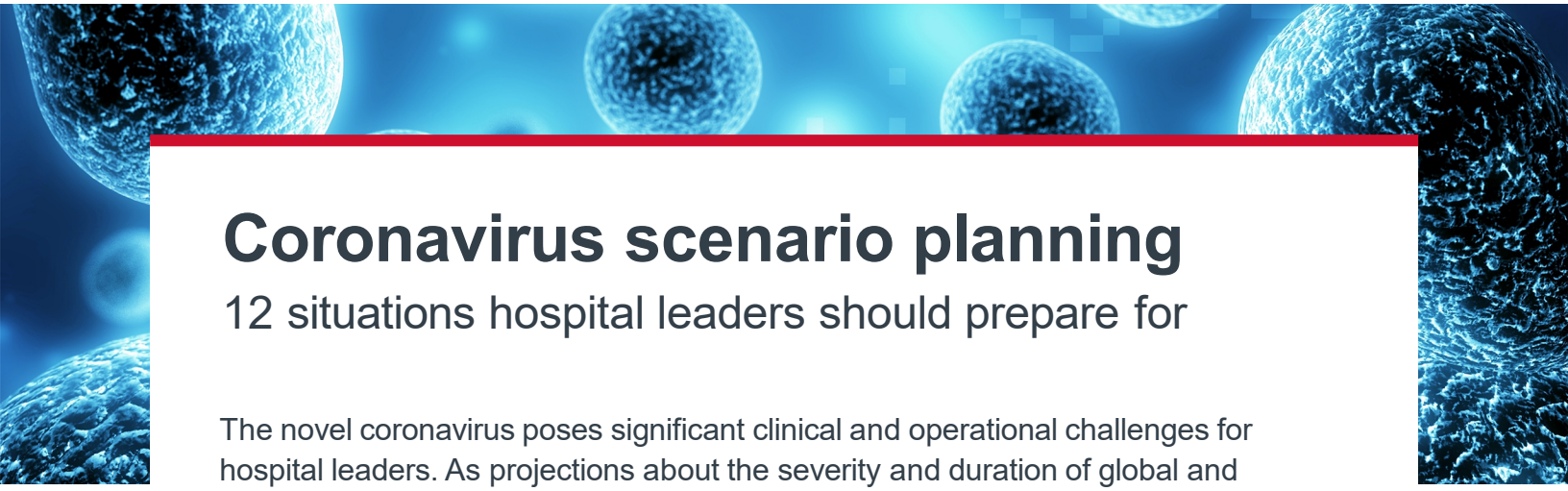

Coronavirus scenario planning

12 situations hospital leaders should prepare for

The novel coronavirus poses significant clinical and operational challenges for hospital leaders. As projections about the severity and duration of global and domestic outbreaks evolve, leaders in the U.S. should look to early experiences in China, Italy, and Seattle to prepare. In each of these geographies, hospitals and skilled nursing facilities saw a rapid surge in diagnosed cases—resulting in a strain on critical care capacity and the health care work force, quick depletion of essential protection and prevention supplies, and growth in the number of avoidable deaths.

How to use this guide

We know that health system leaders are working diligently with their teams to prepare for community outbreak scenarios and to stay up to date on the latest news and guidance. To help hospital leadership teams pressure test the comprehensiveness of their preparedness planning efforts and check for blind spots, we created this scenario planning guide in collaboration with health systems and internal experts.

The document contains 12 potential scenarios that could unfold in a community outbreak with moderate to severe infection rates. Each of these scenarios—which cover impact on capacity, clinicians and staff, finances, and the broader ecosystem—includes a set of questions that leaders can use to engage preparedness planning leaders, taskforces, partners, and other executives to identify potential gaps in strategy. This information should be used as a supplement to, rather than a replacement for, any guidance you receive from federal, state, or local officials.

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01

SCENARIO

Demand surge stresses capacity across inpatient units, with deepest strains in critical care.

Using HHS's projections for moderate and very severe influenza pandemics, an estimated 38 million people will need medical care, of which 1 million to 9.6 million people will require hospitalization and 200,000 to 2.9 million people will need intensive care—more than the country's health care system currently has the capacity to manage.[1] Beyond the surge in inpatient demand, triage, ED, lab, intensive care, infection containment, and skilled nursing (SNFs) are likely to be affected early.

Questions to consider:

- What is the inpatient capacity—especially for critical care and isolation—of our health system, state, and metropolitan statistical area?
- Do we have the ability to make ad hoc isolation rooms or expand our critical care capacity by converting other capacity?
- Are we prepared to follow CDC facility sanitization protocols?
- Do we have clear indicators to determine when to initiate surge protocols?
- Can we flex capacity in our health system—or partner with other local health systems–on short notice if our beds fill up? If their beds fill up?
- Where and how quickly can we create dedicated triage areas that minimize the risk of further infection?
- How will we handle backlogs in the ER or the lab?
- How will we handle shortages of ventilators and critical care equipment?

1. Toner E and Waldhorn R, "What US Hospitals Should Do Now to Prepare for a COVID-19 Pandemic," Center for Health Security (2020).

02

SCENARIO

Shortages of testing supplies impede ability to accurately diagnose patients and contain virus spread.

Delays, glitches, and missteps over a six-week period undermined the U.S. response to the coronavirus outbreak, giving the virus a chance to spread undetected. Despite recent progress, a looming shortage of chemical reagents is threatening to further delay coronavirus testing. Until test kit suppliers are able to adjust production to meet demand, shortages severely limit the U.S.'s ability to accurately diagnose and quarantine patients.

Questions to consider:

- Do we have a sound approach to the distribution of testing kits across our system? How do we determine which patients receive testing first?
- In the absence of testing kits, how and where will we screen patients, visitors, and staff?
- What is our plan to limit exposure from patients seeking testing?
- How can we coordinate or partner with nearby facilities to maximize access to testing for the community?
- Can we visually indicate the infection status of patients?

03

SCENARIO

Local stores of prevention protection supplies are depleted, limiting the ability of hospitals to contain virus spread and protect workers.

Demand for personal protective equipment (PPE) such as gowns, gloves, disinfectant, face shields, and eye protection is currently 100 times higher than normal, according to the World Health Organization (WHO). WHO's models suggest that health care workers would need 89 million medical masks each month to deal with the spread of the virus, along with 76 million examination gloves, and 1.6 million sets of goggles.[1] With the stockpiling of preventive supplies by the general public, the increased demand for PPE, and the halt of Chinese production, signs point to a shortage of PPE. This in turn could lead to rapid spread of both the coronavirus and other dangerous pathogens in health care settings, as well as health care workers refusing to work in unprotected conditions, further limiting clinical capacity.

Questions to consider:

- What supplies do we need to safeguard within our facility? How will we balance safeguarding supplies with access for staff?
- What policies can we implement to reduce supply waste, encourage responsible use, and prevent hoarding?
- How can we facilitate supply sharing across our system and other facilities in our market? Are there any additional processes we would need to put in place for transport and tracking?
- What factors should we consider if rationing is required, and who will be involved in making those decisions?
- What options do we have for supply sharing and emergency ordering?
- For the most used supplies, what substitutes are available to us? How can we work with manufacturers to understand the capabilities and limitations of their products?
- What will we do if we no longer have the supplies needed to keep patients and staff safe?

1. Fink J, "Coronavirus response supplies 'rapidly depleting,' health officials estimate 89 million masks needed each month," Newsweek (2020).

Staff capacity and resilience

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SCENARIO 6

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04

SCENARIO

Pronounced staff shortages among both clinical and non-clinical personnel limit effective capacity.

Surges in infection rates will necessitate staffing additional clinical personnel, as well as cleaning staff, environmental service aides, and other staff members essential to upholding safety and prevention protocols. These same workers are at higher risk of infection and thus may call out of work to self-quarantine after exposure to an infected individual or to proactively minimize their exposure risk—further straining workforce capacity.

Questions to consider:

- How many clinicians will we need to support an estimated surge in demand?
- How can we augment housekeeping, environmental services, food services, transport and other vital departments? When does the infection rate become unsustainable?
- Can we flex staff into the highest need units? How many cross-trained staff do we have on standby lists by unit?
- Are we able to deploy telework or other social distancing policies for non-essential staff?
- Are there ways to have essential clinical staff performing virtual visits or other telework tasks while in quarantine?
- What are our options for recruiting volunteers or retirees or outsourcing labor to manage through a temporary surge in demand? How will we screen and train these individuals?

05

SCENARIO

Staff across the organization experience stress, anxiety, and burnout.

Evidence from China and Italy shows that the virus is taking a tremendous physical, mental, and emotional toll on the health care workforce. Health care workers are at heightened risk not only of infection, but also of ill health brought on by overwork, stress, and exhaustion. Two additional common sources of stress are finances and safety. Specifically, staff may worry that a quarantine could keep them from work for weeks on end—potentially without pay—or that continuing to work will jeopardize their health or that of family members. As a result, some markets may experience strikes, voluntary resignations, high rates of infection among the health care workforce, and increased medical error rates driven by a workforce stretched thin.

Questions to consider:

- What kinds of emotional support services are we extending to staff?
- What temporary resources can we deploy to help manage physical strain and exhaustion? Can we create makeshift spaces for rest and even sleep?
- Will we adjust our benefits or offer any financial support mechanisms for staff who are unable to work due to the virus?
- What kinds of policies can we implement to prevent health care worker fatigue?
- What channel should staff use for sharing feedback, questions, and concerns? Who will respond and when?

06

SCENARIO

Rapidly changing conditions necessitate that staff receive essential training and frequent, accurate updates.

Health care workers will need ongoing training to stay up to date on the latest processes and protocols for a wide range of functions, including prevention and protection, preservation of resources, screening and reporting, containment, escalation, and handling of bed conversions and discharges. In addition to training, they will need a single source of truth to consult for updates and guidance to minimize the spread of misinformation.

Questions to consider:

- How are we alerting our workforce to changes to policies and procedures in real time?
- Do staff have a single source of truth for the latest coronavirus-related information?
- Which policies or procedures necessitate additional training?
- How will we enable rapid training at scale and track which staff have completed trainings?

Community coordination

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07

SCENARIO

Emergent issues require swift coordination with other providers in the local health care ecosystem—especially primary care and post-acute care providers.

As the novel coronavirus continues to spread, the entire health care ecosystem will experience the strain of increased demand. SNFs have already experienced outbreaks and fatalities, but hospitals, primary care practices, retail care sites, and urgent care centers may become overwhelmed as well. Rather than operating as independent entities, providers along the care continuum will need to function as a cohesive system to prevent localized outbreaks and maximize scarce resources. Failing to coordinate with others in the community to share supplies, staff, and information, and manage patient transfers could accelerate infection rates and lead to avoidable mortality.

Questions to consider:

- Do we have a contact list for our partner sites, agreed upon communication channels, and a designated process for transitioning patients from one site to another?
- Have we implemented staff- and supply-sharing agreements with local hospitals, SNFs, and primary care providers to support capacity, quality, and operations?
- How can we share evolving policy guidance and prevention guidelines with our post-acute care and primary care partners?

08

SCENARIO

Facility access for visitors and suppliers must be carefully managed to prevent virus spread.

Public health experts have advised that social distancing, isolation, and quarantine can prevent or limit outbreaks. Given the importance of prevention and protection—particularly among health care workers and vulnerable populations—minimizing or preventing non-essential visits to hospitals and SNFs is critical. Despite the clinical justification, limiting family members' ability to visit loved ones can strain public and community relations.

Questions to consider:

- Who is responsible for modifying, communicating, and enforcing our visitor policy across sites?
- If we restrict visitor access, how do we support communication between patients and families and promote positive patient-family relations?
- Do we have a list of the suppliers, consultants, and other external partners who come onsite? Do we need to cancel or modify upcoming visits or deliveries?
- What is our policy for restricting vendor access and how will we communicate and enforce it?

09

SCENARIO

Concerned patients overwhelm access points across the system, limiting ability to identify and treat infected patients.

With the virus already stretching facility and staff capacity thin, inappropriate health system utilization only exacerbates access issues and increases the likelihood of virus spread. Health systems must provide clear guidance to the public on where to go and what to do if they suspect they have been exposed to the virus; if they have an acute, non-virus-related health condition that requires attention; if they have a non-essential procedure or visit scheduled that should be postponed; or if they are experiencing stress or anxiety due to the crisis.

Questions to consider:

- What is our strategy for communicating to the public where to go and what to do if they think they have been infected? If they have an acute, non-virus-related issue?
- How will we handle excess volume in the ED, urgent care, or primary care?
- What can we do to shore up our tele-triage and general telehealth capabilities?
- How can we support clinicians in making effective use of telehealth modalities?
- How can we support providers across the care continuum to help protect their capacity?

10

SCENARIO

Uninfected yet vulnerable populations with chronic conditions will experience gaps in care management—and underestimate their virus risk.

Sixty-two percent of American adults now live with at least one chronic condition and 42 percent have more than one.[1] Many of these individuals require ongoing monitoring and support for their conditions, and they are more susceptible to severe cases of COVID-19 that may trigger other dangerous health effects. Health systems must ensure that their care management infrastructure is in top form to help moderate- and high-risk patients manage their conditions, prevent virus exposure, and reduce avoidable health care utilization.

Questions to consider:

- Have we identified our most vulnerable patients? Do we have a strategy for communicating with them proactively?
- How can we monitor vulnerable populations for infection and general health needs to avoid unnecessary hospitalizations and protect limited capacity?
- How will we allocate staff resources to non-infection-related care management during the crisis?

1. Irving D, "Chronic Conditions in America: Price and Prevalence," RAND Corporation (2017).

Financial management

11

SCENARIO 11

A disruption in the supply of drugs and other non-virus-related medical supplies—combined with sudden labor shortages–rapidly increases operating expenses.

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SCENARIO 12

Sudden margin pressures and a broader economic downturn threaten medium-term financial sustainability.

11

SCENARIO

A disruption in the supply of drugs and other non-virus-related medical supplies—combined with sudden labor shortages–rapidly increases operating expenses.

The U.S. sources a variety of active pharmaceutical ingredients, finished drug products, and medical supplies from countries whose production capabilities have been limited due to the virus. With or without the virus, drug shortages are a perennial problem in the U.S. The global nature of the virus and the increased demand for specific products will only exacerbate supply chain vulnerabilities, triggering increased product acquisition and personnel costs, rationing, procedure delays, and increased error rates. Given the shortages of both supplies and labor, operating expenses are poised to spike.

Questions to consider:

- How can we ensure inventory visibility across all sites of care?
- How do we distribute limited supplies when they do come in?
- How will we manage supply budget overages and our emergency ordering process?
- Do we need to shore up support for supply chain and health system pharmacy to manage increased shortage management responsibilities?
- Does the shortage management team have authority to make rapid turn-around decisions about changes to formulary and care pathways?
- Do we have the ability to in-source drug compounding, partner with health systems that have compounding abilities, or seek supplies from an alternate vendor?

12

SCENARIO

Sudden margin pressures and a broader economic downturn threaten medium-term financial sustainability.

With an onslaught of medical cases and a potential decline in elective procedures, hospitals will experience an immediate threat to operating revenue—primarily due to case mix changes, increased variable costs, and increased length of stay (LOS). Compounding the problem, changes to the economy threaten the ability to cross-subsidize patient care with non-operating revenue. The Dow Jones Industrial Average recently experienced its worst single-day drop since 2008. A faltering economy not only jeopardizes investment portfolios, but also health systems' fundraising potential. Even with regulatory action, the pandemic is likely to threaten the medium- and long-term financial sustainability of hospitals, which already faced near record-low operating margins before COVID-19 emerged.

Questions to consider:

- What is our strategy for navigating changes in case mix, LOS, and drop-off in elective procedures?
- Can we shift some elective procedures to outpatient settings?
- How will we address our sudden expense growth without reverting to another temporary cost-cutting campaign?
- How do we achieve sustainable margins as a volatile stock market limits our ability to cross-subsidize operating revenue?
- How could economic pressure or a future recession impact philanthropy?

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