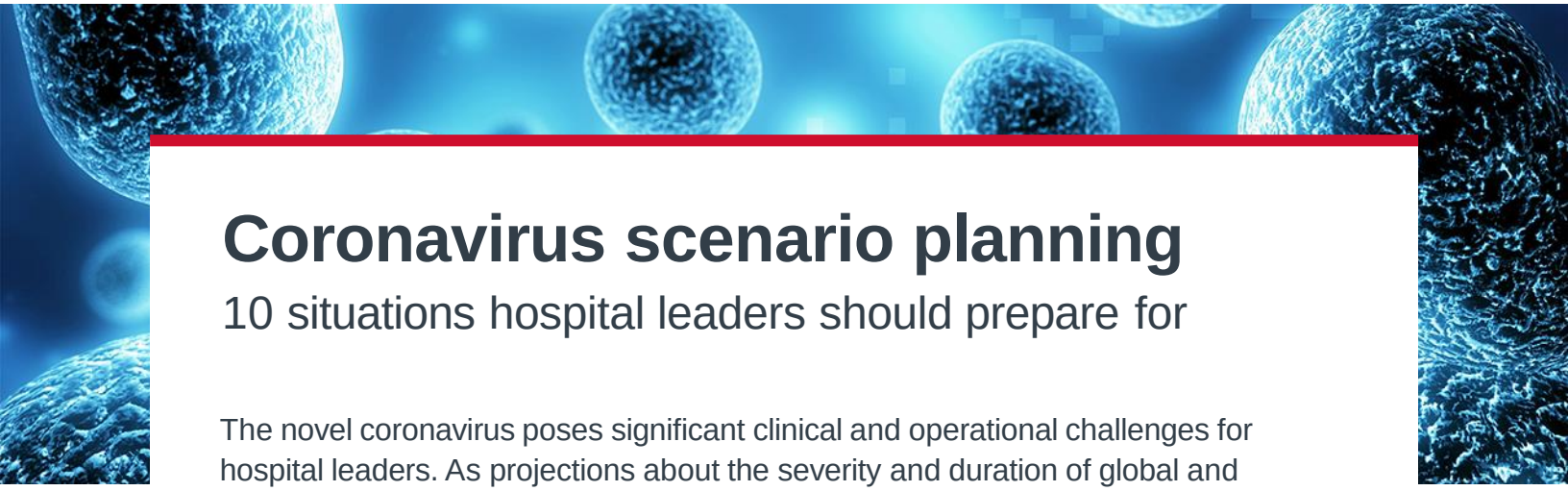
Advisory Board

Global Edition



Coronavirus scenario planning

10 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, health care leaders should look to early experiences in China, Italy, and South Korea to prepare. In each of these geographies, hospitals and aged care 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 10 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, 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, provincial or local officials.

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01

SCENARIO

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

Drawing from China's experience with COVID-19, about 15% of patients infected with the virus required hospitalisation and 5% required critical care. Even more conservative estimations of these demand rates point to potentially unmanageable surges in inpatient demand, triage, ED, lab, intensive care, and infection containment.

This comes at a time where the OECD average is at 3 beds per 1,000 people—let alone greater limitations in critical care beds (ranging from 3-30/100,000)

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 established facility sanitisation 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 minimise 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).

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02

SCENARIO

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

Internationally South Korea stands out as an exemplar in rapid testing of their population. They have the ability to run 15,000 diagnostic tests per day and have conducted 196,000 tests nationwide.

Despite recent progress in the rest of the world, a looming global 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 any one jurisdiction'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 maximise access to testing for the community?
- Can we visually indicate the infection status of patients?

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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 Organisation (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).

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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 minimise 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?

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05

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Staff across the organisation 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 jeopardise 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?

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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 minimise 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?

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07

SCENARIO

Emergent issues require swift coordination with other providers in the local health care ecosystem—especially primary care and home and community providers.

As the novel coronavirus continues to spread, the entire health care ecosystem will experience the strain of increased demand. Aged care facilities 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 localised outbreaks and maximise 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, aged care facilities, 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?

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08

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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—minimising or preventing non-essential visits to hospitals and aged care facilities 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?

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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 utilisation 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?

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10

SCENARIO

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

Global estimates of disease burden indicate that as many as one third of the global population has more than one chronic condition. 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 utilisation.

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 hospitalisations and protect limited capacity?
- How will we allocate staff resources to non-infection-related care management during the crisis?

1. Harjat, Stein, "The Global Burden of Multiple Chronic Conditions: A Narrative Review," Preventative Medicine Reports (2018).

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