Modern Healthcare

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Why the industry was ill-prepared for a pandemic and what changes could come

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Some states are considering converting jails into healthcare facilities. Convention centers and college dorms are being retrofitted while shuttered hospitals are being reopened. Retired doctors and nurses are rejoining the workforce. Hotel rooms are housing patients who just need isolation. Telemedicine is becoming vital.

Healthcare has adapted quickly to match the **unprecedented scale** of the **COVID-19** pandemic. And while front line workers have persevered, the virus has exposed the industry's vulnerabilities. But COVID-19 also presents an opportunity to permanently shape **how healthcare providers prepare** for the worst-case scenario.

"If we don't do something significant to bend the curve, we will be considerably above capacity," said David Deaton, chair of O'Melveny & Myers' healthcare law practice.

As they brace for an expected wave of patients, industry observers point to healthcare policies, mindsets and behaviors that contributed to a global crisis. And perhaps addressing one of the most persistent problems—minimal investment in the country's public health infrastructure—can help mitigate future disasters, experts urged.

"We are spending $3.6 trillion on healthcare, there is no reason why we couldn't have adequate stockpiles of essential equipment," said Harold Pollack, a professor at the University of Chicago, adding that bolstering public health typically isn't the most compelling cause. "This is not the worst problem we are going to face. With issues like climate change, other possible pandemics, we have to be ready. And we are not."

Wakeup call

Many hospitals have become smaller and more efficient over the past decade, moving some services into more accessible locations that are cheaper to operate. Hospital executives opted to reduce overhead by removing or repurposing inpatient beds, especially as more than half of many **smaller hospitals' inpatient beds remained vacant**.

"We're facing almost a perfect storm here," said Thora Johnson, a partner at Venable, noting that the number of inpatient beds has dropped since passage of the Affordable Care Act, which created incentives to keep people out of the hospital. "Many hospitals are already at capacity, so the situation is quite dire when we're anticipating a significant influx."

But the number of beds remained relatively stagnant from 2010 to 2018, only dropping from 805,000 to 793,000, according to American Hospital Association data that exclude federal and psychiatric hospitals. Admissions and average daily census were also relatively flat.

The ACA likely resulted in more ED visits rather than indirectly reducing inpatient capacity, said Jeff Goldsmith, founder and president of consultancy Health Futures, echoing a sentiment other experts shared. The push for fewer hospital beds preceded the landmark healthcare law, he said.

The **1975 National Health Planning and Development Act** made the case that there were inadequate incentives for ambulatory and intermediate care over inpatient hospital care, which inflates spending. Since 1975, there has been a gradual decrease in hospitals and hospital beds, falling by about 700 and 150,000, respectively.

Dr. Robert Pearl, a professor at Stanford University and former CEO of the Permanente Medical Group, says care moving from inpatent to outpatient settings wasn't associated with the ACA. The drivers were with rising costs and payers looking for lower rates.

The most pressing issues involve critical care and ventilators, exposing a fragile supply chain and a lack of qualified healthcare workers, he said.

Ninety-three percent of 247 emergency physicians surveyed by the American College of Emergency Physicians in mid-2018 said their EDs were not fully prepared for surge capacity during a disaster.

"The big issue is where are you going to get physicians and nurses, and at what cost," Deaton said.

Response

In response to COVID-19, hospitals are setting up makeshift triage and testing centers in their parking lots. Hospital wings typically used for elective surgeries are being transformed into respiratory wards. U.S. military hospital ships are being deployed.

"In my 35-plus years in this field, I have not seen something of this scale in the U.S.," said Dr. Ben Hoffman, chief medical officer at WorkStep, which tries to help employers reduce workers compensation claims.

The bankrupt Seton Medical Center in Northern California, which was slated to close, was leased by the state to care for COVID-19 patients. The National Guard is turning the Santa Clara Convention Center into a 250-bed medical station.

Similar efforts are taking place in New York, Washington and other states. Chicago is reopening shuttered hospitals and using hotel rooms to house less acute patients. Some providers are designating one hospital in a regional network to handle COVID-19 cases, or at least dedicating certain floors of hospitals to treat the disease. Other hospitals are converting unused shell spaces set aside for expansions into areas where they can treat quarantined patients, said Robin Savage, chief operating officer of the construction firm Robins & Morton.

Hospitals should repurpose closed med-surge units from outpatient to inpatient, convert single rooms that were once double rooms, transition standalone surgery centers to inpatient space and reopen closed hospitals that are candidates for emergency use, said Ellen Belknap, president of SMRT Architects and Engineers.

When it comes to non-healthcare spaces, providers should be cognizant of sightlines into the rooms as well as older ventilation systems that may need to be adjusted, she said.

To scale up, regulations will need to be loosened, if they haven't already.

The CMS implemented **temporary new rules** last week that ease Medicare payment for hospitals that transfer less acute patients to ambulatory surgery centers, inpatient rehabilitation hospitals, hotels, dorms and other facilities.

"HHS is going to be working very quickly and not require that every facility meets all minimal requirements," said Bryan Langlands, a principal at the architecture firm NBBJ.

Regulators should also ease limitations on hand sanitizer storage and maintenance requirements for non-life support equipment, said George Mills, CEO at ATG, a subsidiary of JLL, a commercial real estate management firm, and director of operations for JLL's healthcare division.

"We'll need alternative care sites to accommodate the surge," he said. "But my biggest concern is our aging infrastructure."

The federal government has an opportunity to infuse funds in community hospitals to renovate and replace older systems, similar to the **Hill-Burton Act** of 1946, Mills said.

Labor and supply shortages

Spaces can be adapted, but the supply of caregivers, equipment and protective gear is less flexible. Shortages of staff and necessary equipment bode far worse than a shortage of available real estate, experts said.

While the U.S. has more licensed nurses than most comparable countries, it has fewer practicing physicians per capita—2.6 per 1,000 people, according to Kaiser Family Foundation **data**. And although the U.S. has a higher number of total hospital employees than counterparts around the world, less than half of that workforce is involved in patient care.

Staffing companies that place nurses and physicians are **already stretched**. Requests for nurses from New York City providers jumped 1,000% from February to March, with the highest demand in ICU and emergency care, said AMN.

Easing of federal licensure and telehealth regulations have helped, but there are only so many doctors, nurses and support staff to go around, staffing companies said.

"There has to be mobilization of armed forces like the Coast Guard or National Guard because at some point hospitals are going to run out of staff, if they have not already," said Chuck Peck, a partner at the consultancy Navigant, a Guidehouse company.

One of the health systems Peck works with had 125 of their physicians and nurses in quarantine as of last week, he said.

Old equipment and infrastructure places an even heavier burden on staff, said Mills, recalling a time at a prior hospital job when his request for new air ventilation units were denied because the facility had just bought a new MRI.

"It's certainly appropriate to keep investing in clinical needs, but we have systems that are 50 years old and their life expectancies are 35 years," he said.

When it comes to readying equipment and supplies for COVID-19, experts say the federal government did not act quick enough.

It wasn't until last week that President Donald Trump ordered General Motors to produce ventilators under the **Defense Production Act**. General Electric and Ford soon followed suit. Trump also ordered HHS and the Department of Homeland Security to increase U.S. production of personal protective equipment like masks.

"The current crisis is with governmental policy," Stanford's Pearl said.

Demand for N95s respirators is surging. In fact, it's increased 17-fold, according to a new **survey** from Premier, a group purchasing and consulting organization that measured demand before and after hospitals reported COVID-19 cases. Demand for face shields has nearly increased ninefold, sixfold for swabs to do testing, fivefold for isolation gowns and threefold for surgical masks. Hospitals are relying on donations to protect their workers.

Hospital workers said they are being forced to wear standard face masks and are being fired if they don't comply or complain.

"Companies can repurpose their lines to produce respirators or ventilators pretty quickly," said Hoffman, who was the chief medical officer at GE. "Companies want to do that sort of thing but there needs to be a way to engage them in a meaningful way to get it done."

Capacity conundrum

The need for hospital beds, particularly those in intensive care, may overwhelm the national healthcare system and limit access to necessary care, experts worry.

As of 2018, the U.S. had about 728,000 medical and surgical hospital beds available to the public, or 2.2 hospital beds per 1,000 people, according to AHA data that exclude children's and specialty hospitals. That puts the U.S. behind most industrialized nations, the Kaiser Family Foundation found.

Bed availability varies significantly from state to state. On average, 36% of the 728,000 beds were unoccupied. In Connecticut, for instance, there are only 1.9 beds per 1,000 people and only 24% were vacant, according to a recent Robert Wood Johnson Foundation **analysis**. Delaware, Massachusetts, Nevada and Rhode Island are in similar situations.

On the other end, North Dakota has 4.2 hospital beds per 1,000 residents and 43% were unoccupied, which falls in line with Kansas, Mississippi, South Dakota and Wyoming.

However, many of the available beds in rural areas are in smaller, less technologically advanced hospitals.

"We have limited capacity in this country—if you are looking for elasticity in the healthcare system, you are not going to find it," Hoffman said.

Many of those rural communities' residents are **older and poorer**, which can limit healthcare options. They also have far fewer intensive care beds and would have to travel further for care.

"We're so focused on metro areas, I am a little concerned about when this hits rural communities," said Teri Oelrich, a healthcare planner and registered nurse at NBBJ. "Critical-access hospitals are too small and lack the adequate staff to treat very sick people. They are not going to be a viable safety net."

Medicaid will be a lifeline for the millions of Americans who lost their jobs and insurance coverage, University of Chicago's Pollack said.

The U.S. had more than 6,100 severe COVID-19 cases as of April 1, rising about 20% a day on average, according to **data** from Definitive Healthcare. Some of the hardest-hit counties like New York County already exceeded its capacity to treat acute cases. The healthcare system can treat about 48,000 severe cases, judging mainly by the number of ICU beds and ventilators, Definitive data show.

The pandemic's peak will come around April 15, requiring the use of more than 262,000 total beds, more than 39,000 ICU beds and nearly 32,000 invasive ventilators, according to the **Institute for Health Metrics and Evaluation**. The U.S. healthcare system will be short more than 87,000 total beds and nearly 20,000 ICU beds, IHME estimates.

While hospitals won't likely maintain extra beds to prepare for a once-in-100-year pandemic, they will likely be more flexible in their design to accommodate additional patients when needed, said Celia Van Lenten, counsel at Venable.

New normal

Experts hope that COVID-19 brings lasting change to the healthcare system.

They advocated for more permanent adjustments to telehealth, paying more for virtual care and loosening regulations to expand access.

Also, supply chain disruptions stemming from foreign manufacturers should spur stakeholders to add more control and certainty in sourcing U.S. drugs and supplies, Van Lenten said.

Ideally, the collaborative, coordinated responses to the crisis stick, industry observers said.

"Each hospital can't protect itself from everything," NBBJ's Langlands said. "We need to figure out how to look at all area hospitals and form a network approach."

The economic ripple effect of COVID-19 may draw more attention to potential vacancies in public health agencies and pandemic preparedness, said Pollack, who suggested a tax on medical services that's used to finance public health.

"It's frustrating to go to a fancy children's hospital and see a $5 million lobby, and then walk to the local public health department 10 blocks away where everything is less resourced. We have to fix that," he said.

Looking ahead, COVID-19 will likely shape healthcare facility design, experts said.

Emergency department bays can be equipped to accommodate an extra stretcher to fit between every two beds, boosting capacity by 50%. The architecture firm Nelson Worldwide designed one such ED in South Florida, adding a separate HVAC system to allow half the units to be quarantined, said Jose Estevez, principal at Nelson.

"This is the new normal," he said. "We will be designing with this situation in mind for the long term."