

## The JAMA Forum

## Emerging Lessons From COVID-19 Response in New York City

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In a little more than 1 month, US society and its hospitals were transformed by coronavirus disease 2019 (COVID-19). The once-boisterous streets of New York City became quiet, while the hospital wards reverberated with the swooshes and beeps usually heard in intensive care units (ICUs). COVID-19 echoed that duality. There are so many outside the hospital who were silently infected, while so many fought for their lives in the hospital, struggling just to breathe.

The public hospitals of New York City have seen scourges for centuries—yellow fever in the 18th century, cholera in the 19th, HIV/AIDS in the 20th, and Ebola just a few years ago. Although surviving past epidemics provides confidence that society will survive this one as well, each epidemic has challenged individuals in different ways. Prior experiences provide little guidance on how to get through this one. Nonetheless, each day more is learned about COVID-19, and by sharing early reflections from the epicenter of the US epidemic—New York City—other parts of the country and the world that are confronting the same suffering may be helped.

### Public Health and Health Care Delivery Are Intertwined

New York City is fortunate to have a world-class public health department. The link between public health and health care delivery [has always been important](#) for policy and environmental approaches to complement clinical care. But COVID-19 has brought this into sharp relief. The effectiveness of social distancing translates directly into the number of sick patients in the emergency departments and intensive care units.

In an [open letter to fellow New Yorkers](#), thousands of emergency department clinicians urged people to “stay home as much as possible and only go out for essential supplies like groceries. This type of isolation is difficult, but we assure you it will save others. Don’t cut corners.”

Collaboration between public health and health care is also vital for ensuring that policy on COVID-19 restrictions adequately



consider health care workers' unique position in the crisis. For example, in closing New York City public schools, the city opened enrichment centers where the children of first responders could go during the day, so their parents would still be able to do their jobs.

### The Primacy of Clinician Morale

[Flattening the curve](#), [raising the line](#), and other shorthand for COVID-19 strategies sometimes overlook how fundamentally important morale is. If clinicians lose trust or motivation, the health care system buckles, no matter how many beds are available. Just as leaders are responsible for sourcing sufficient ventilators and N95 respirators, they also must have a pulse on morale, particularly because health care workers are risking themselves and their families.

Adrenaline got people through the first few days, but COVID-19 is different from 9/11 and Superstorm Sandy in that it requires much greater endurance of clinicians. In the face of overwhelming tragedy, celebrating victories, like playing music throughout the hospital marking each extubation, or tracking the number of people on a board who have recovered from COVID-19, bolsters spirits. The strongest possible motivation for

health care workers to toil under difficult, sometimes perilous, conditions is knowing that they are saving lives.

### Health Equity Is the Main Event, Not a Sideshow

Multiple signals emerging in COVID-19 outcomes confirm what has been seen before: in times of crisis, those already living on the margins are most likely to be harmed. Why did one New York City borough, Queens, bear the brunt of the first wave of COVID-19? The full story will take time to understand, but the residents of Queens include many low-income and immigrant families, who live in multigenerational and often crowded housing, experience a greater burden of underlying comorbidities like diabetes, and have available to them fewer hospital beds per capita. Risk factors converge in particular for immigrants, who often work in jobs now [deemed to be essential](#), like stocking the bodegas that all rely on.

The story has begun to unravel of why certain ethnicities, particularly Latinos, are [more likely to have catastrophic outcomes](#) from COVID-19, and it has been hypothesized that poverty, tobacco use, nutrition, and chronic stress are part of the equation—perhaps made worse by federal

anti-immigrant policies. The worry is that the same communities will suffer effects from the predicted [second pandemic](#) related to foregone chronic care—as well as unintended consequences from necessary social distancing, such as lost wages for restaurant workers and subpar education for children with limited internet access.

### Moving Beyond Analytics to Intelligence

The COVID-19 military metaphor “from the frontlines” often felt overwrought for people more used to being healers than warriors. But the idea that beyond data or analytics, the need for [intelligence](#) for sound decision-making feels true.

For instance, at NYC Health + Hospitals, the total numbers of patients with COVID-19 are tracked in the emergency departments, inpatient wards, and ICUs. However, half of the patients with COVID-19 were admitted in one of the emergency departments at one point, but another hospital had turned an endoscopy suite into an ICU. Keeping track of the numbers of patients requires triangulating with rapid changes on the ground, both with physical walkthroughs as well as real-time communication (good old-fashioned

telephone calls). Accurately tracking bed capacity and availability becomes a matter of life and death when one hospital encounters a surge and needs to draw upon others for help with the influx.

Robust intelligence also helps to take on important unanswered questions, such as what is happening with patients without COVID-19, [many of whom seem to be missing](#) or at least delaying seeking care. In the same vein, the most important consideration in working with projection models for COVID-19 surge planning has been feeding back actual data to recalibrate models. Understanding why some models predicted a need for 4 times as many ventilators as what are currently being used helps to forecast better—a matter of trust.

A final lesson from these efforts has been interrogating reactions to potentially promising results, from discerning how much to glean from an uncontrolled case series of COVID-19 treatments to finding positive trends in otherwise bereft data. One person's confirmation bias is another person's glimmer of hope.

Despite the physical isolation associated with COVID-19, it has crystallized how society is “caught in an inescapable net-

work of mutuality,” to invoke Martin Luther King Jr. This has been felt in New York City and a virtual platform was launched for physicians to share clinical observations and best practices across hospitals, using the [Project ECHO model](#).

But the network must be global. In the same way clinicians in New York City have learned from experiences in China, Italy, and Seattle, everyone has to continue paying it forward. This requires not only the rigor needed for all of sound science, but also more widespread collaboration, and accelerating the translation of research into benefits for patients. ■

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