



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
SCOTT M. STRINGER

July 17, 2020

The Honorable Andrew M. Cuomo
Governor
New York State Capitol Building
Albany, NY 12224

Re: Review of H+H's Response to COVID-19

Dear Governor Cuomo:

I am writing to relay the findings of the review into the performance of New York City Health + Hospitals (H+H) to the COVID-19 pandemic conducted by my Office pursuant to your request.

Our evaluation included a review of public source documents and interviews with officials from the City of New York, H+H, and representatives of H+H employees. The findings and recommendations contained in this letter should be considered preliminary; I recommend a more in-depth review be undertaken at the appropriate time to build upon our analysis.

To review a related matter of the City's preparedness for this crisis, I have recently requested from the City the records necessary to conduct a thorough investigation into decision making within New York City government leading up to, and during, the pandemic. This investigation, when completed, will provide an in-depth analysis of the successes and shortcomings in the City's response to the pandemic, and may contain findings that confirm or revise the findings of this initial review.

COVID-19 has devastated New York City, claiming more than 22,000 lives as of mid-June. The pandemic quickly placed extreme stress on New York City's healthcare systems – including, but not exclusively, H+H. Years of planning for the next pandemic and early action to obtain necessary resources could not meet the challenge of this health crisis. This review found that H+H, and the larger system within which it has operated during the pandemic, faced an unprecedented situation for which no one was fully prepared. The lack of preparedness forced all players to improvise responses, sometimes successfully, sometimes not – but inevitably at a cost in human lives. Several deficiencies were noted, including inadequate access to needed supplies and equipment, a lack of systems and procedures for managing patient loads across hospitals, and insufficient protocols for deploying staff.

COVID-19 has also once again highlighted the deep inequities in access to healthcare in our

communities: people living in lower-income neighborhoods, people of color, and those with underlying health conditions have been more likely to die from the virus. These are the communities that rely on H+H for care. A history of disinvestment in healthcare in those same communities further increased the burden of care on H+H hospitals. Certain operational deficiencies we identified can be addressed in the short term, but the deeper problem of inequitable access to healthcare must be considered equally urgent, even though it will take more time and resources to address.

H+H Serves a Population Disproportionately Impacted by COVID-19

COVID-19 has disproportionately impacted New York City's lower-income communities of color, a large component of the population H+H serves. For example, as of mid-May, the age-adjusted death rate was twice as high for Black and Hispanic New Yorkers than for the City's white and Asian population. H+H's outsized role in providing care to these vulnerable City residents most severely impacted by COVID-19 is frustrated by its lack of resources and financing.

In FY 2018, H+H facilities served 1.097 million patients through 4.13 million outpatient visits, 1.12 million emergency department visits, 187,000 inpatient visits, and 68,900 ambulatory surgery visits. Prior to the pandemic, the City's public hospital system provided 20 percent of total hospital beds citywide (about 4,700 beds at 11 acute care hospitals) and 18 percent of the City's intensive care bed capacity.

Although they are not the majority of all patients served in New York City, H+H's patients disproportionately suffer from high rates of the conditions that make them uniquely vulnerable to COVID-19. For example, of the total number of H+H encounters with patients in FY 2018:

- 894,000 visits involved a patient who was 65 years or older;
- 1.9 million visits involved a patient with a hypertension diagnosis;
- 1.5 million visits involved a patient with a diabetes diagnosis;
- 1.4 million visits involved a patient with a mental health diagnosis;
- 791,000 visits involved a patient with an asthma diagnosis; and
- 1.1 million visits involved a patient with a substance use disorder diagnosis.

H+H runs some of the busiest emergency departments (EDs) in the country, with more than one million visits in 2019. Lincoln Hospital and Kings County Hospital ranked sixth and fourteenth, respectively, in the nation for annual emergency room visits in 2018.

Busy does not translate to being seen promptly. H+H EDs perform relatively poorly on measures of strain in the emergency room, e.g., how long it takes for patients to be seen, receive medication, and be admitted or discharged. For example, at Elmhurst Hospital, patients must wait on average more than four hours before being sent home from the emergency room, if not admitted, and more than 11 hours to be admitted. At both Kings County Hospital and Jacobi Medical Center, the average wait to be admitted is more than 12 hours. Across New York State, the average wait to be admitted from the emergency room is approximately six hours and the average wait to be discharged, if not admitted, is less than three hours.

H+H EDs are busy in part because they often serve larger surrounding areas, called “catchment areas,” than private hospitals. Elmhurst Hospital, for example, serves a catchment area of 372,000 New Yorkers, compared to 127,000 for NYU Langone and 174,000 on average citywide. The reliance on the City’s public hospital system to meet the needs of communities without choices in healthcare has grown with hospital closures and downsizings that have resulted in about 20,000 fewer hospital beds in New York State since 2000. In the last 2 decades, at least 16 hospitals in New York City have closed, including four in Queens and three in Brooklyn.

As a public hospital system, H+H’s mission is to treat those individuals unable to pay for medical care. In FY 2019, about one-third of the approximately 1.1 million unique in- and out-patients served at H+H facilities were uninsured. About 70 percent of H+H patients are insured by Medicaid or have no insurance, compared to 40 percent for private (“voluntary”) hospitals in New York City. As of the beginning of FY 2020, revenues from patient insurance or payments covered just 61 percent of H+H’s expenses; the balance was provided by public subsidies. In the first four months of FY 2020, after falling in recent years, the number of uninsured H+H patients rose by 8 percent. Public subsidies fill the H+H budget gaps that are caused by the number of uninsured and Medicaid patients it treats.

Among the most important sources of public funding are Disproportionate Share Hospital (DSH) payments, which are Medicaid funds intended to aid hospitals that suffer financial losses from providing care to relatively large numbers of uninsured and Medicaid patients, and Upper Payment Limit (UPL) funds, which are Medicaid funds to cover some of the difference in reimbursement rates between Medicaid and Medicare. These funds account for more than 20 percent of H+H revenues. While H+H is lowest in the hierarchy of recipients of DSH funding, in City Fiscal Year 2020 H+H received over one-third of total statewide DSH resources (\$3.7 billion), including \$600 million in Inpatient and Outpatient UPL payments for FY20 and prior years. H+H is the only hospital that receives inpatient UPL payments.

The adopted state budget for state fiscal year 2020-21 included \$2.2 billion in annual cuts against baseline Medicaid growth that could affect H+H’s bottom line. Changes in the DSH distribution formula that reduced funding for better-off hospitals, however, are expected to provide roughly \$100 million in additional DSH funding to H+H (which will require the City to fund half). The State and H+H are currently negotiating actions in the hope of generating incremental revenue for H+H that exceeds the amount of State savings from Medicaid reimbursement cuts.

The federal CARES Act provides \$175 billion for health care providers for expenses or lost revenues related to COVID-19. Of the \$87 billion in direct provider funding allocated in the Federal CARES Act to date, H+H has received \$1.1 billion, or 13 percent of total funding awarded to providers in the State (\$8.3 billion).

Planning

While no crisis can ever be fully anticipated, the general scenario of a large-scale pandemic has been the subject of numerous planning exercises, studies, and hearings, spurred by past outbreaks

such as H1N1, SARS, MERS, and Ebola. Potential shortages in staffing, bed capacity, and supply stockpiles needed to care for patients during a pandemic were identified as issues to address, along with coordination issues.

In July 2006, the City's Department of Health and Mental Hygiene (DOHMH) published its *Pandemic Influenza Preparedness and Response Plan* (Plan) that anticipated many of the problems the City faced during the COVID-19 pandemic nearly 14 years later. Among other things, the Plan cautioned that, since the pandemic would be expected to be widespread in the United States, supplies from the federal Strategic National Stockpile (SNS) might not be available and local caches would need to provide necessary supplies. The Plan identified problems that would likely occur, such as hospitals not being able to transfer potentially contagious cases/patients, functioning at full capacity, and lacking adequate critical care capacity. The Plan also anticipated that a pandemic would require sustained surge capacity at hospitals. A work group was to be funded to develop a template hospital plan, including strategies to enhance staffing, increase beds, and stockpile supplies. A model used by the Plan (FluSurge2) estimated the need for critical care and predicted that critical care beds would be in short supply and staffing and equipment (e.g., ventilators) would present challenges. The Plan projected a ventilator shortfall of between 2,036 and 9,454 units and recommended a six- to eight-week citywide stockpile of masks and gloves, with tracking systems to be implemented that could detect rapid consumption of medical supplies.

A presentation on Medical Emergency Preparedness in New York City given by Debra E. Berg, Medical Director of DOHMH's Bioterrorism Preparedness Program in 2007, identified critical benchmarks that included bed capacity, isolation capacity, personal protective equipment (PPE), health care personnel, and equipment and pharmaceutical capacity. The presentation addressed the already identified ventilator shortfall and assessed the pilot project (put forward in the 2006 Plan for purchasing a limited number of ventilators). A presentation slide indicated that for a scenario similar to the 1918 pandemic, the City would have a shortfall of more than 8,000 ventilators, which would cost an estimated \$70 million to purchase.

In a June 2009 hearing on the City's response to H1N1 held by the City Council's Committees on Governmental Operations, Health, and Public Safety, Joseph Bruno, then the Office of Emergency Management (OEM) Commissioner, testified:

This particular event occurred simultaneously throughout much of the United States and the world. And a perception of need for the same resources at the same time emerged almost immediately. We saw this in the first days of the event when N95 respirators were not available at any price. We were reminded that the sharing of critical assets between surrounding Counties and States that usually occurs in response to other disasters might not occur here and these resources might be scarce or unavailable.

Although describing H1N1, former Commissioner Bruno could have been describing COVID-19.

New York State's November 2015 Ventilator Allocation Guidelines also seemingly predicted the

issues preparing for a public health crisis. It described “The State’s current approach to stockpiling a limited number of ventilators [that] balances the need to prepare for a potential pandemic against the need to maintain adequate funding for current and ongoing health care expenses.” It also predicted that since “... severe staffing shortages are anticipated...purchasing additional ventilators beyond a threshold will not save additional lives, because there will not be a sufficient number of trained staff to operate them.” It further warned that “[i]n the event of an overwhelming burden on the health care system, New York will not have sufficient ventilators to meet critical care needs despite its emergency stockpile” of 1,750 ventilators. This quantity was not sufficient for “the most severe model,” and the State had no plans to buy enough ventilators for the most severe model.

The gap between planning and reality is no doubt due to several factors, including the large and abrupt scale of the COVID-19 pandemic. Planning and preparedness fell short in the current instance in part because institutions – the State, the City, H+H, and private hospitals – faced resource tradeoffs between the cost of preparing for a possible future scenario and the daily reality of care delivery. The lack of preparedness forced all players to improvise responses, sometimes successfully, sometimes not—but inevitably at a cost in human lives.

How H+H Pivoted to Address the Four Aspects of Emergency Preparedness: Space, Staff, Stuff, and Systems

Preparing for—and meeting—the needs raised by a public health emergency require addressing the “four S’s” of emergency planning: space, staff, stuff, and systems. Adding beds – space – to any health care system also requires the additional resources to support and manage those beds, including staff, supplies, and systems to coordinate the fulfillment of those needs among the various facilities, whether within one healthcare organization or between different organizations.

Space

Prior to the pandemic, on a typical day about half of H+H’s hospital beds were empty. However, capacity quickly became a crucial issue as the number of beds, and particularly ICU beds, were insufficient to meet the needs of the pandemic.

On March 16, 2020, the State created a council to coordinate and develop surge capacity at all hospitals, with a target of 9,000 additional beds. On March 22, 2020, with the ultimate goal of doubling capacity, the State ordered all hospitals to increase bed capacity by at least 50 percent. H+H announced plans to add 2,466 standard hospital beds and 762 ICU beds, which would triple the number of pre-pandemic ICU beds, by May 1. Additionally, H+H also planned to add 350 temporary beds at Coler Specialty Hospital on Roosevelt Island. As a result of the state order, within a month of the outbreak, statewide hospital capacity nearly doubled, expanding from 53,000 to 90,000 beds, including the addition of hotels, field hospitals, temporary converted spaces, and the USNS Comfort. Ultimately capacity was added to a degree that it was not fully needed.

Staff

The surge of patients and addition of beds at H+H hospitals required additional personnel, including both medical professionals and support staff needed to provide care.

To handle the patient surge, H+H hospitals assigned existing personnel to areas where the need was greatest. However, such action resulted in doctors and nurses being redeployed to assignments that required specific skills they either did not have or had not used in many years, often without adequate or needed training. This included, for example, assignment of neonatal nurses to the intensive care unit, or of a physical therapist who had not worked as a respiratory therapist for decades to treat COVID patients in respiratory distress.

Volunteer personnel also helped H+H provide patient care to those who needed it. However, although the influx of much appreciated volunteers from in- and outside the City boosted staff numbers, integrating those volunteers magnified redeployment issues. The volunteers needed to be credentialed and did not have access to or knowledge of H+H computer systems. In addition, H+H lost volunteers to private hospitals that did not have the same bureaucratic layers and could pay volunteers for their services.

Stuff

H+H's efforts to obtain the equipment and supplies needed to support its increased operations highlighted the challenges of meeting a large-scale pandemic or medical emergency. Resource constraints limited the City and H+H's ability to maintain a stockpile of sufficient size to meet the scale of the COVID-19 emergency, and H+H's attempts to procure equipment were hampered by nationwide—and even worldwide—supply chain issues. The global demand for a limited inventory of supplies, a lack of coordination and sound guidance by the federal government, and the lack of a sufficient City stockpile frustrated H+H's procurement efforts, and led to dangerous conditions for workers and patients alike.

The City's 2006 Pandemic Influence Preparedness Response Plan warned that New York City could be short as many as 9,500 ventilators. The City acquired a few hundred ventilators in a pilot program, which ultimately were auctioned off because the City could not afford to maintain them: it faced a tradeoff between spending its limited funds to maintain its stockpile of ventilators or using those monies for immediate needs. Because immediate needs understandably took precedence, the City's supply did not meet the demand presented by COVID-19.

The City and H+H faced similar supply shortages of personal protective equipment (PPE). Most hospitals, including H+H, do not have the capacity to stockpile large quantities of supplies and equipment, so inventory is limited to what is typically needed for a limited period of time, without additional resources for surge capacity. As with ventilators, City stockpiles of N95 masks and other necessary items could not meet the demand during the outbreak.

In January, when the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern, H+H sought to procure additional PPE. However, even by that time, orders of supplies could not be fulfilled because the global supply chain was already overwhelmed. H+H was thereafter forced to compete with local, national, and even global entities for equipment and supplies needed to support its increased operations. H+H, as well as the City and State, could not rely on the federal government to coordinate either the national need or supply of PPE or other needed items. The supply chain issues left each hospital system

to itself to procure critical supplies. Existing re-supply contracts were rendered meaningless because vendors did not have the inventory to fulfill demand.

In an attempt to remedy the lack of supply, on May 3, 2020, New York State indicated it would order all hospitals to have a 90-day stockpile of PPE on hand. However, as of the date of this letter, the State has yet to issue such order promised on that date. In addition, fulfilling the order would be nearly impossible in the current supply-constrained circumstances.

The limited supplies of PPE led to changing guidelines about their use, starting with the federal Centers for Disease Control and Prevention (CDC). Established medical protocols were amended by the CDC in light of the crisis, and constantly changing guidance regarding acceptable use of PPE was driven by lack of available supplies, rather than by science and medical standards. In February the CDC issued guidelines that were inconsistent with previous medical standards of care and approved limited re-use of PPE. For example, a N95 mask that previously had to be changed after each procedure or patient exam could now be used for up to five days. The State Department of Health disseminated the CDC guidelines, despite their obvious deficiencies, and H+H and other hospitals followed them: the lack of sufficient supplies precluded them from following more medically sound standards.

The changing guidance and ensuing confusion rendered H+H health care workers even more vulnerable to COVID-19, with many becoming sick and dying. The New York State Nurses Association reported that as of early June at least 35 of its members had died. Such risk is not limited to the health professionals directly interacting with patients. For example, lab technicians reported a lack of equipment required to safely perform their work, specifically a “bio-hazard hood” needed to examine blood samples. In addition, the reported transfer of COVID-19 samples by pneumatic chute along with other blood samples could spread COVID-19 contamination to non-COVID-19 units and expose laboratory workers. Finally, according to reports my office received, even supplies to clean patient rooms were inadequate, creating a risk of infection to other patients and hospital personnel.

Systems

The expansion of hospital beds, transfer or addition of personnel, and requisition of supplies each required systems and coordination to manage the surge of patients, for example, to effectuate the transfer of patients at crowded hospital to available beds at one with available capacity. At the outset of the crisis, the existing systems were not equipped to handle the need and volume.

On January 21st, more than a week before the WHO declared COVID-19 a Public Health Emergency of International Concern, H+H virtually activated its Central Office of Emergency Management Emergency Operations Center. Two weeks later, on February 3, 2020, H+H established a “Tiger Team,” including subject matter experts from various departments who meet weekly to discuss situational facts, activities, accomplishments and barriers related to COVID-19.

At the outset of the pandemic, there was little to no formal coordination among and between H+H hospitals, but over the course of the pandemic, H+H management centralized allocation of

resources to a greater degree than pre-COVID. Patient load presents one prominent example: The surge of patients requiring medical treatment at an H+H hospital was uneven across the H+H system, as press accounts about issues confronted by Elmhurst Hospital revealed. In an effort to address the disparities between the demand at each facility and its available resources, individual H+H staff would telephone another facility to attempt a transfer. As this informal process became untenable under the pressure of surging caseloads, it was replaced by a daily conference call and ultimately an email portal that allowed users to view need and capacity at H+H facilities and request transfers centrally.

Similarly, procurement and distribution of PPE was eventually centrally managed, with support provided by the City DOHMH. In late March, DOHMH began weekly distribution of PPE from its warehouse to all hospitals (H+H and private). DOHMH also fulfills emergency requests—within 24 hours if possible—through a 1-800 phone number.

On a broader level, the management of patient loads across different hospitals and systems also shifted from an ad hoc arrangement to a more centralized system with the creation of a central State-level coordinating body jointly managed by the Greater New York Hospital Association and Northwell Health on behalf of the State. The State activated the existing Healthcare Evacuation Coordination Center (HECC), which has been used in prior emergencies to coordinate patient transfers, but only for the purpose of facilitating transfer of non-COVID patients from hospitals to the temporary field hospital established at the Javits Center. Operations were later transferred to Northwell Health.

Conclusion

The COVID-19 pandemic has demonstrated that while planning is important, even the best plans inevitably will not and cannot foresee or anticipate every eventuality, because each emergency and crisis is unique. COVID-19 presented an unprecedented challenge and placed strains on every part of the City’s healthcare system, both private and public. Planning and preparedness must provide for a clear chain of command and responsibility to ensure a coordinated, timely, and effective response and allow for the flexibility that our preliminary inquiry identified.

It is clear that H+H—or any individual healthcare system—cannot manage the need created by a health crisis of the magnitude experienced with COVID-19 in isolation and without support and assistance from state and local governments acting in concert with the entire healthcare delivery sector. H+H’s challenges arose at least in part from insufficient and conflicting guidance, originating at the federal level, and an initial lack of coordination among participants in the local healthcare system. Many of these challenges were addressed “on the fly” by both the State and City governments and by the hospital sector, including the Greater New York Hospital Association (GNYHA), H+H, and private independent facilities. The cooperation exhibited by all parties is to be commended.

As a result of this preliminary review, I recommend the following:

1. Planning must identify key roles and responsibilities for various players in the healthcare delivery system in the event of systemwide health emergencies. The State and City

Departments of Health, the City's Department of Emergency Management, and other state and city government offices, and major providers, including H+H and voluntary hospitals (through the GNYHA), should all be included, and the plan must provide for clear chains of command and responsibility for different aspects of crisis management. H+H should create the same plan for its system.

Planning must be inclusive of all parts of the organization. Good planning must take into account the broadest possible range of expertise and insight from all members of the organization.

2. Develop a plan to identify and obtain critical supplies in advance of the next health crisis. Such a plan must assume contingencies for a lack of critical supplies or the assistance of the federal government. Providers of critical equipment should be identified in advance and the State and City health departments should work in concert with hospital systems to put in place contingency contracts to ensure supplies are available when and as needed. A centralized inventory and procurement system for key equipment and supplies should be created to manage surges that exceed the capacity of individual hospitals to meet.
3. Review and formalize innovations created to address the COVID-19 pandemic as standard operating procedures (SOP), including the enhancement of coordination within H+H facilities and both between and among different health care systems. For example, the mechanisms developed for the transfer of patients between and among H+H facilities as well as other healthcare systems should be formalized and made permanent. Contingencies for supply management in the event of excess demand should also be institutionalized.

At the same time, there were practices and protocols that must be examined more closely by H+H leadership and improved if a future large-scale health emergency is to be handled more effectively. I further recommend that:

4. As part of regularly conducted pandemic drills and exercises, H+H doctors and nurses should be cross-trained to support ICU and critical care staff.
5. Any transferred or volunteer personnel be provided with sufficient training or shadowing opportunities to obtain the requisite knowledge to perform new duties or duties they have not performed in a significant period of time. Appropriate training could consist of shadowing an experienced staff member who currently performs the function to be assumed or even classroom learning. Transferred staff might also need to be given access to and trained on any computer systems or databases needed to perform the new duties that they have not previously used.
6. The State and City departments of health, H+H, and other hospitals should work together on health and safety protocols and guidance to avoid confusion and miscommunications. Following federal guidance should be the default posture but should not be automatic if

doing so will likely compromise the health and safety of both healthcare workers and patients if it can be avoided.

7. Like planning, operations during a health emergency must include all parts of the organization. Management must include leadership of organizations representing all the system's employees at all levels and in all capacities to ensure the fullest possible understanding of a dynamic situation, and that all members of the organization understand and can execute decisions.

Above all, my office's preliminary review of H+H's response to the COVID-19 crisis found that H+H's ability to deliver proper patient care to the communities that need it the most in the face of a health crisis requires the assistance of federal, state, and local governments to ensure that H+H has the resources available to meet demand in the communities it serves. These resources include sufficient funding, established coordination policies and procedures, and the assistance and support of its governmental and private partners. The City and State must address the underlying inequities in access to health care that both directly resulted in a disproportionately high death toll among the City's most vulnerable populations and threatened to overwhelm existing capacity and systems.

The heroic dedication of H+H frontline staff at all levels ensured that H+H hospitals were able to operate despite the myriad challenges. We have lost too much and too many during this crisis. We owe it to all those impacted by H+H's struggle to address this crisis—especially its frontline healthcare workers and patients—to ensure that the City's public healthcare system is as well prepared as humanly possible for a possible resurgence of COVID-19 patients as well as the next health crisis.

Sincerely,



Scott M. Stringer
New York City Comptroller