



Testimony on the Hospital Response to COVID-19

August 12, 2020

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GREATER NEW YORK HOSPITAL ASSOCIATION

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finest patient care in the most cost-effective way.*



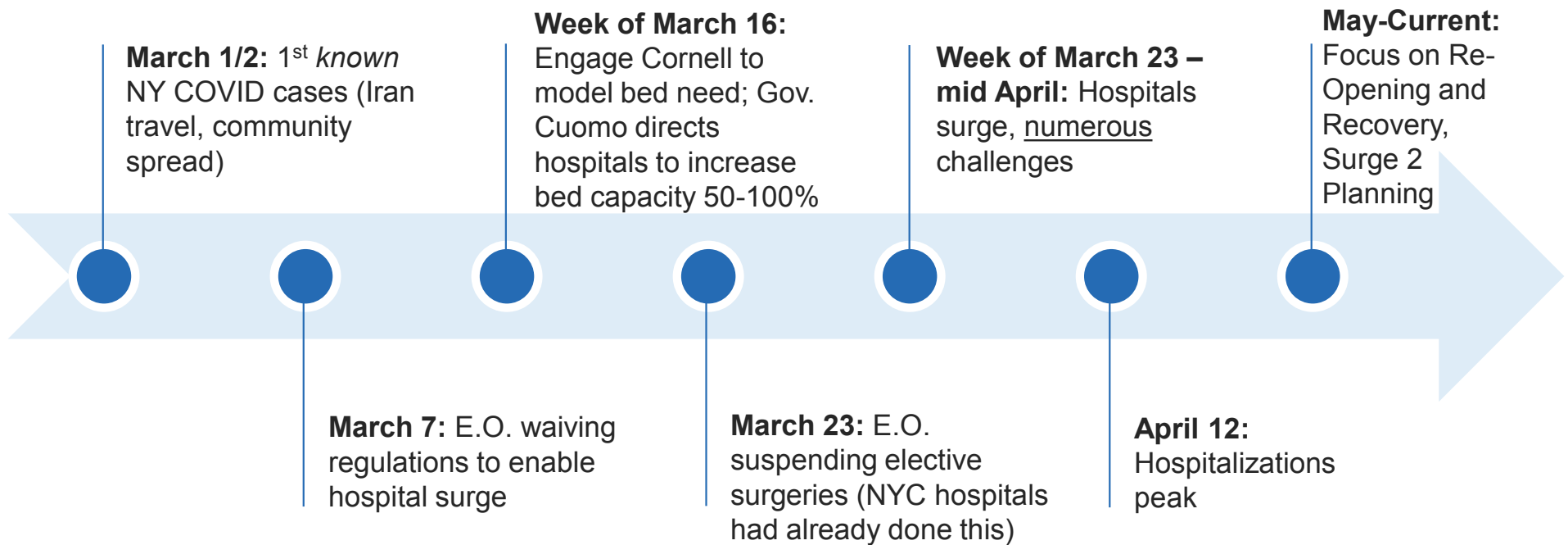
Part 1. The Surge: The Largest Deployment of Health Care Resources in U.S. History

Part 2. The Economic Consequences

Part 1. The Surge

The Largest Deployment of Health Care Resources in
U.S. History

Timeline

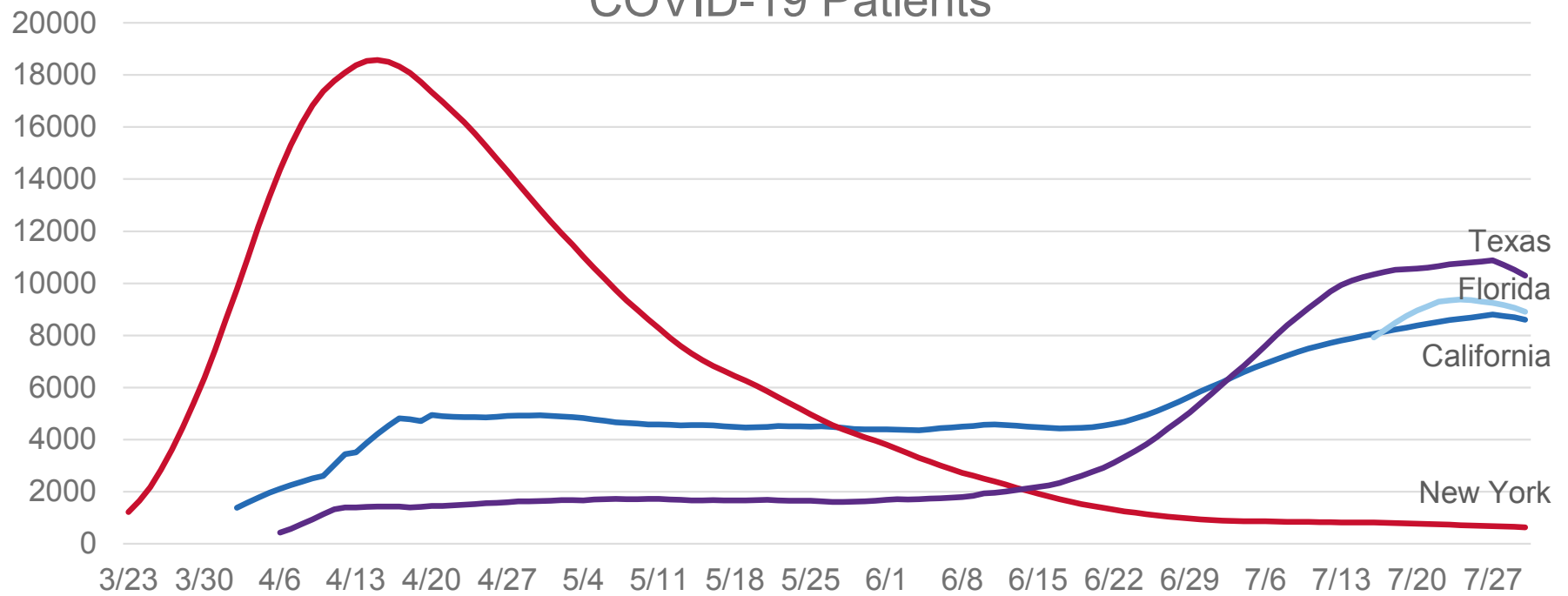


Note: For a more detailed milestones timeline, see *Leading through a Pandemic*, by Michael Dowling and Charles Kenney, 2020.

Disproportionate Impact of the Surge in New York State



7-Day Rolling Average Hospital Census of COVID-19 Patients



Sources: NYS Department of Health and <https://www.covidtracking.com>

Unprecedented Level of Collaboration: *Among Hospitals and Between Hospitals and State Government*



Creating Beds: Surge Capacity of 50-100%



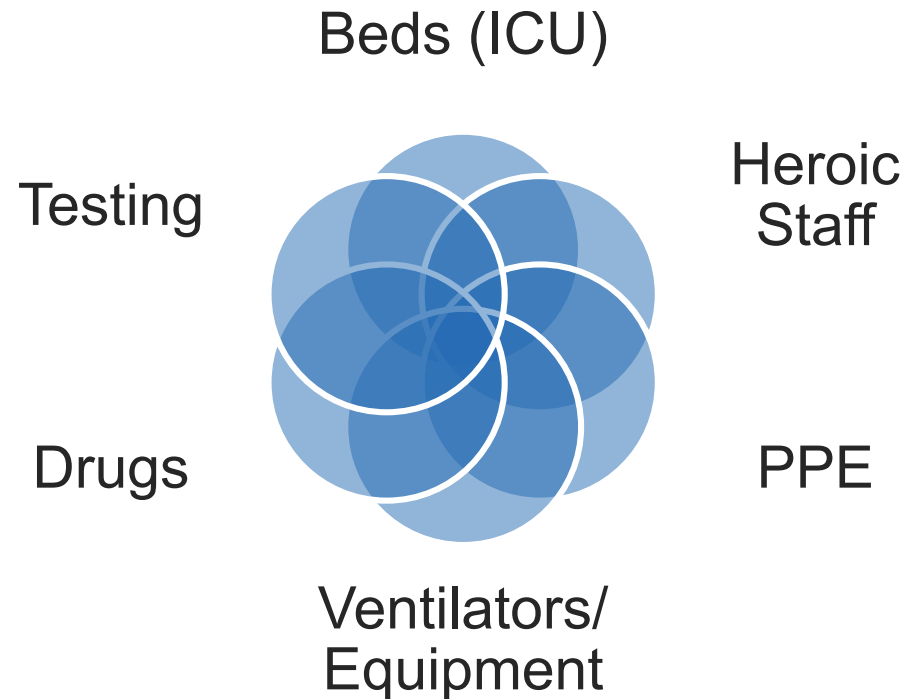
Hospitals cancelled all elective surgeries; converted lobbies, conference rooms, operating rooms, etc.; set-up field hospitals

Alternate care sites brought additional capacity; Federal government's decision to accept COVID+ patients at Javits was critical

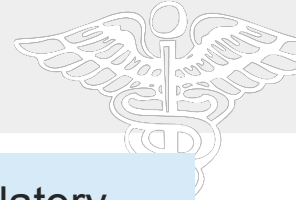
Creating Surge Capacity Required Immense Resources (Especially for ICU Beds)



But it's not just about beds. Needed staff and equipment, including ventilators.



Addressing Staffing Challenges



Redeploy Existing Staff

Retrain and redeploy existing staff in new roles (e.g., ambulatory care nurses to IP setting)

Staffing Agencies

- Activated RN surge staffing contracts (\$150+/hour)
- Also needed ancillary and non-licensed staff

“Volunteer” Systems

- NYS identified 95,000 licensed professionals (many non-NYers)
 - Matched over 12,000 to hospitals and nursing homes
- Many volunteers not the right match for intense ICU/CCU patients, many in high risk group

Practice Waivers

- New York State & Federal regulatory waivers of licensure and other requirements
- Residency trainee flexibilities approved
- Early graduation of hundreds of fourth year medical students

Note: See attached *GNYHA Lessons Learned/Preparation for Future COVID-19 Waves: Surge Staffing* for additional detail.

Finding Personal Protective Equipment (PPE) for Staff



Monthly Need Exploded



N95 masks x 13



Gloves x 2



Gowns x 7.5

Huge Sourcing Challenge

Sources

- Traditional supply chain
- Government stockpiles (State/City distributed)
- Local companies made masks and gowns
- Ford Motor made face shields and gowns
- Donations

Special challenges

- Bidding wars
- Federal interception
- COVID “scammers”

Note: See attached *GNYHA Lessons Learned/Preparation for Future COVID-19 Waves: PPE and Scarce Equipment and Supplies* for additional detail.

Finding Other Supplies and Equipment



Ventilators

Government stockpiles

International search for manufacturers

Loans from other states

Innovations (e.g., bi-PAPs, splitting)

Other clinical advances (next slide)



Sedatives for Vent Patients

Federal stockpile

Increased domestic production

Rebalancing within systems

Intrastate sharing protocol

Note: Examples of shortage drugs included fentanyl and propofol.

Developing Clinical Advances



Brand new virus, undefined treatment protocols

Information sharing among clinicians critical

- GNYHA convened ICU directors 3x per week
- Clinician relationships to gather information from Italy, Washington State, etc.

Required clinicians to innovate, while treating severely ill patients

- Aggressive “proning” to decrease ventilator use (and decrease LOS)
- Multiple systems affected: vascular, hemotologic, etc.
 - Anti-coagulation strategies to prevent strokes and heart attacks, increased dialysis needs
- Drugs: steroids to reduce inflammation and Remdesivir to improve recovery time

Finding Tests and Testing Supplies



Diagnostic Tests

CDC

- Initial tests didn't work
- So, CDC authorized other labs
 - NYS Wadsworth Center
 - NYC public health lab
 - Hospitals and private labs

Persistent shortages

- Collection kits
- Reagents
- Testing platforms

Antibody Tests

No shortage, but poor reliability

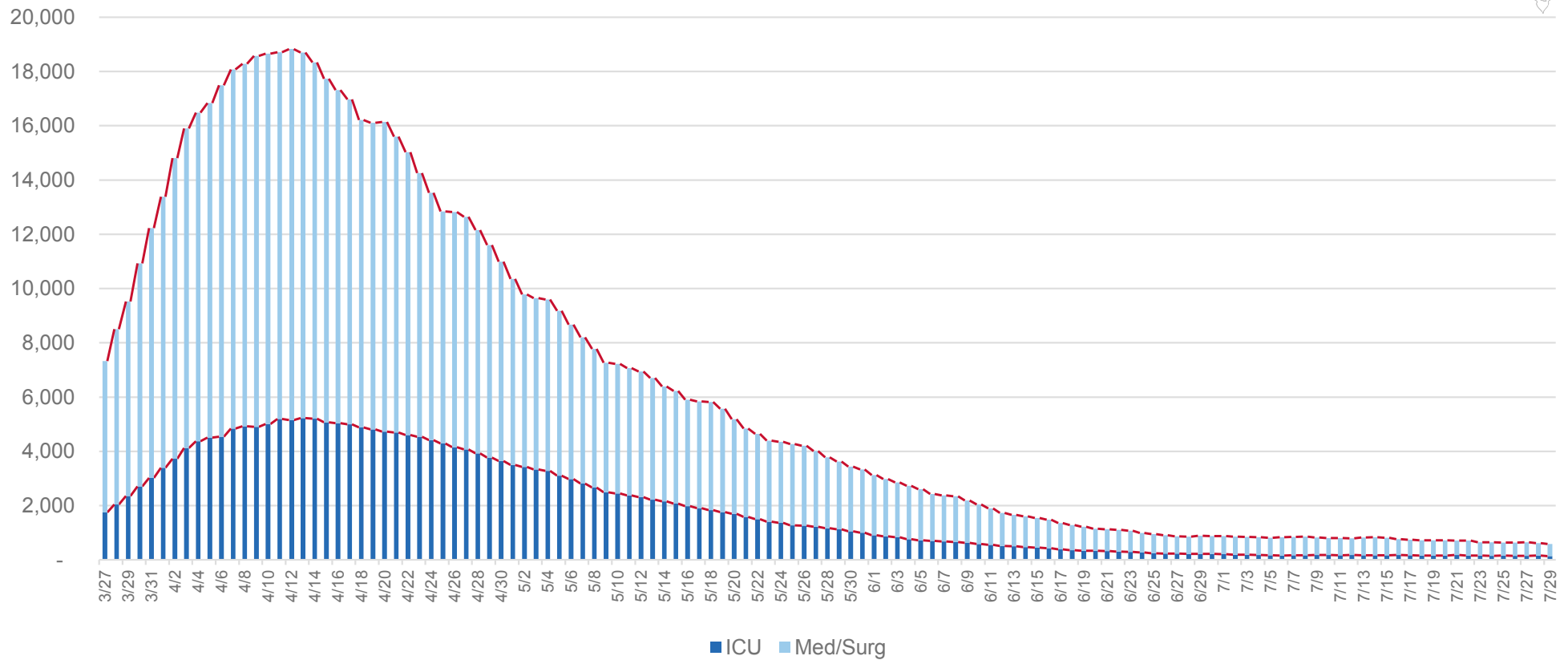
Unknown whether antibodies confer immunity

Lower prevalence among health care workers due to PPE

System Bended But Did Not Break



NYS Hospitalization Trend



Planning for a Second Wave



Initial Patient Wave
(March-May 2020)

Lessons Learned Documents
Structured Interviews with Members

Preparation for
A Second Wave

- Patient Load Balancing Strategies
- Develop and Monitor Indicators for Operational Triggers
- Fine-Tune Surge Plans (Beds, Staff, Equipment, Transfers)
- Coordinate with Government-led Operations (e.g., PPE Stockpiles)

COVID-19 WAVE 2 PATIENT LOAD REDUCTION AND LOAD BALANCING STRATEGIES (7.16.20)

Working draft prepared by GNYHA in collaboration with member hospitals

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Purpose: Develop and formalize processes that support collaborative patient load balancing across hospitals, with the goal of reducing patient surge in any particular hospital or group of hospitals.

Activation of these strategies: The goal will be to tie activation of these strategies to broader surge indicators used by government entities, with input from the hospital/health care community.

Notes:

- A foundation for these strategies will be the activation of waivers that provide flexibility for patient transfers.
- Throughout this document, references are made to GNYHA's Sit Stat 2.0 system. This is a web-based situational awareness platform that is used to collect and display key data points for use by hospitals, health systems and agency response partners. Currently 115 hospitals across New York State participate in the program.

STRATEGY 1: REDIRECT EMS TRANSPORTS AWAY FROM HOSPITALS WITH ELEVATED ED, INPATIENT VOLUME

Create a three-level self-reported qualitative measure of hospital capacity: 1) normal level (green), 2) elevated surge (yellow), and 3) significant surge (red), and program this indicator into GNYHA's Sit Stat 2.0 system. The measure will be defined in the system as follows:

Compared to a regular day, this status best describes your hospital capacity—normal level, elevated surge, significant surge. This is a qualitative measure and should account for emergency department (ED) volume including boarding, inpatient volume, all staffed available beds, and planned transfers and discharges. This measure will be used by emergency medical services (EMS) to inform patient transport decisions.

Hospitals will be asked to update this measure each morning in GNYHA's Sit Stat 2.0 system, and then throughout the day when changes in status occur. Hospitals will determine what role/department should provide this information.

EMS agencies via access to GNYHA's Sit Stat system will monitor this indicator, modifying destination decisions to the extent possible as described below:

- Hospitals flagged yellow (elevated surge): [TBD – in discussion with key stakeholders]
- Hospitals flagged red (significant surge): [TBD – in discussion with key stakeholders]

STRATEGY 2: FORMALIZE AND SUPPORT PROCESSES TO FACILITATE PATIENT TRANSFERS

Throughout the spring COVID-19 patient surge, daily, large health systems transported patients within their own hospital network and to alternate care sites, and accepted transfers from independent hospitals. The structures and processes below



GNYHA is a dynamic, constantly evolving center for health care advocacy and expertise, but our core mission—helping hospitals deliver the finest patient care in the most cost-effective way—never changes.

Note: See attached *GNYHA COVID-19 Wave 2 Patient Load Reduction and Load Balancing Strategies* for additional detail.

Understanding the Impacts of COVID-19 and Meeting the Needs of the Health Care Workforce



Partnering with the American Medical Association to offer their *Coping with COVID-19 for Caregivers Survey* to members

- Designed to inform hospital and health system workforce initiatives
- GNYHA providing implementation and analytic support



HEALING, EDUCATION, RESILIENCE & OPPORTUNITY
FOR NEW YORK'S FRONTLINE WORKERS

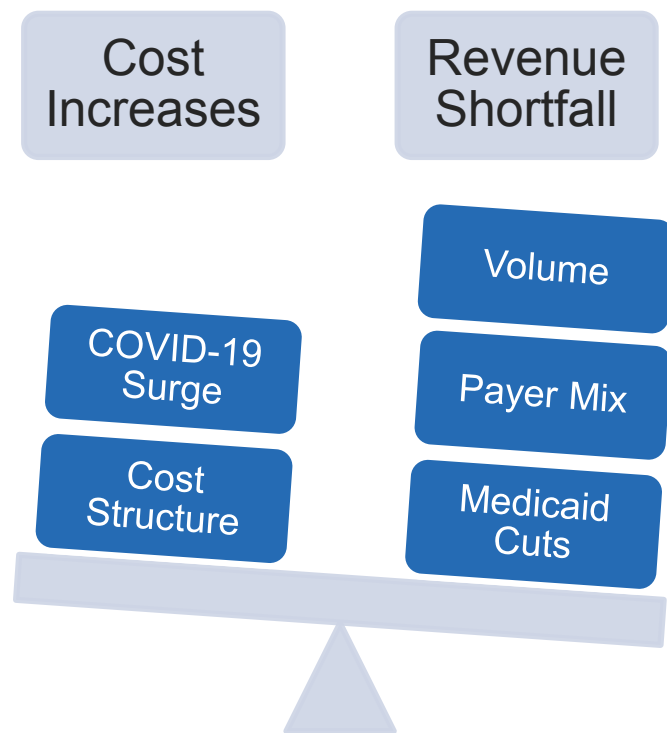
Five “train the trainer” modules

Developed with DoD, VA, USUHS, NYC H+H, DOHMH, & FDNY

Based on military expertise on trauma, stress & resilience

Part 2. Economic Consequences

Current Economic Paradigm: Hospitals Teetering Financially



Federal funding bridged some of the initial gap (i.e., cost versus revenue)

\$175B Provider Relief Fund

Medicare Advances



But, expect all NY hospitals to lose \$ in 2020

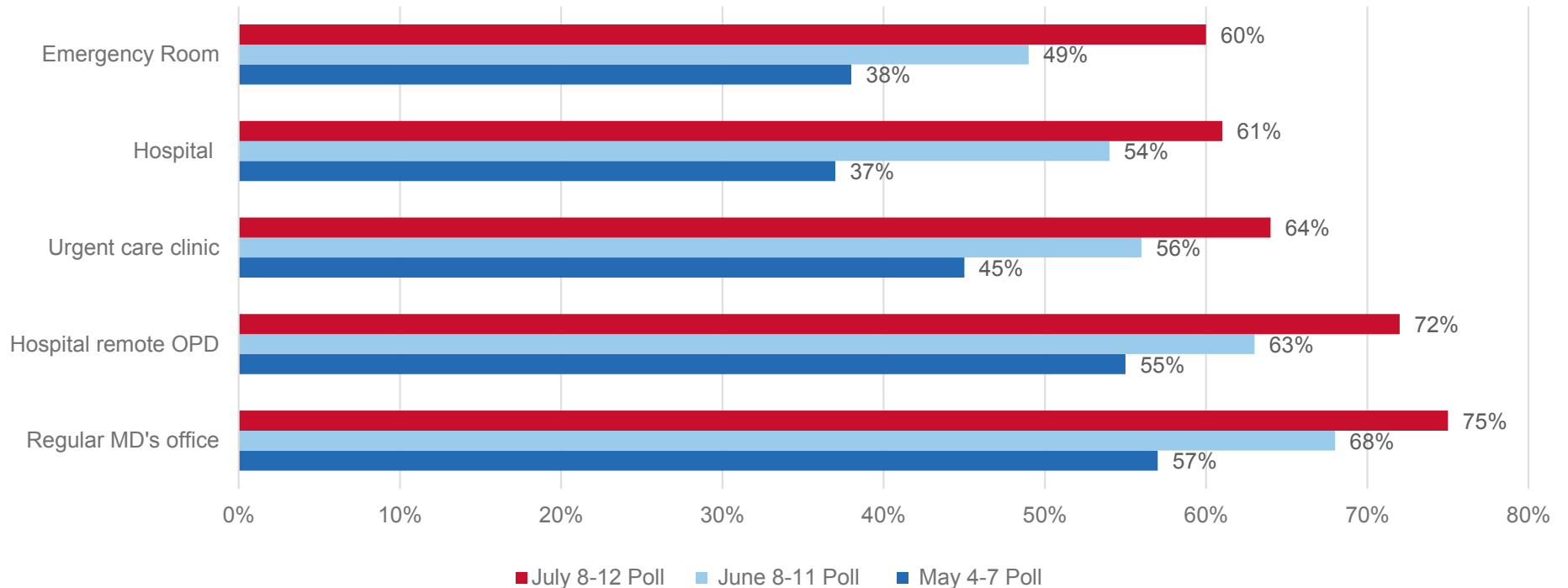
Question is how much?

Note: See attached *Economic Issues that Could Affect the Hospital Industry's Response to a Second Wave of COVID-19* for additional detail.

Care Settings: New Yorker's Views



How likely are you to seek care at:
(% = % likely)



GNYHA Ad Campaign



YOUR HEALTH COULD BE AT SERIOUS RISK.



gnyha.org/safecare

PAID FOR BY GREATER NEW YORK HOSPITAL ASSOCIATION.

Don't delay.



A FATHER'S DAY GIFT THAT LASTS A LIFETIME.

GOOD HEALTH.

COVID-19 PATIENTS IN NEW YORK HOSPITALS HAVE DECLINED BY OVER 90%.

If you have a heart condition, cancer, diabetes, or just need a routine screening—like a prostate exam—you could be putting your health at serious risk by delaying treatment.

Your hospitals and doctors are ready to take care of you—with the strongest safety measures to protect you from contracting COVID-19:

- 1 Strictly adhering to CDC infection control guidelines, including testing and personal protective equipment (PPE).
- 2 Isolating COVID-19 patients from non-COVID-19 patients, including in emergency rooms and waiting rooms.
- 3 Aggressively screening for COVID-19 at all points of entry.

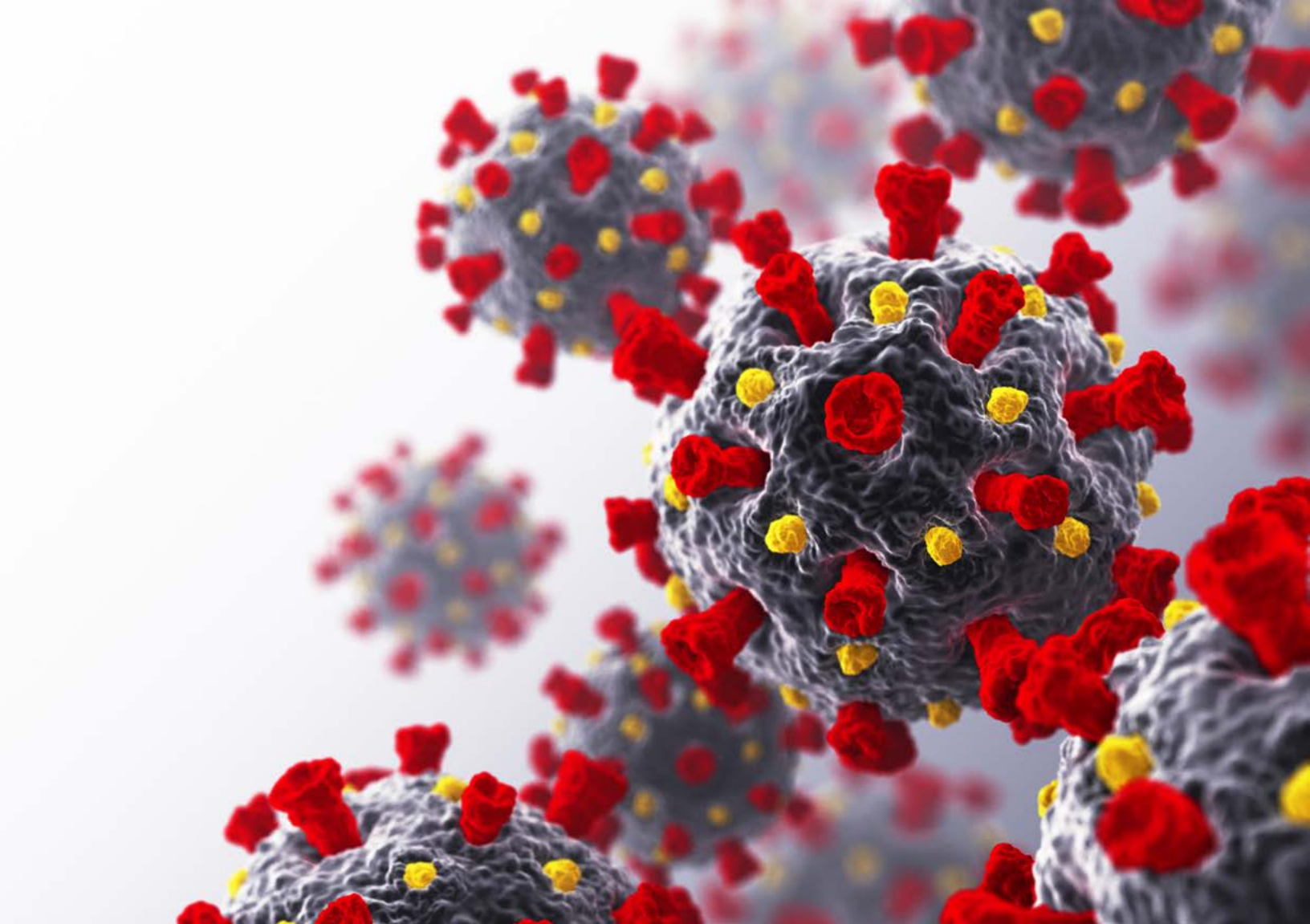
In addition, every hospital has outpatient services—including surgery—that are separately located, with no COVID-19 patients.



DON'T LET YOUR DAD PUT HIS HEALTH ON HOLD.

Visit gnyha.org/safecare to learn more.

Questions



GNYHA LESSONS LEARNED/PREPARATION FOR FUTURE COVID-19 WAVES

Topic: Surge Staffing

For limited distribution



Lessons Learned: Surge Staffing

INTRODUCTION

The COVID-19 response put immediate and unprecedented strain on New York's hospital and health system workforce. With early impact projections calling for the State's health workforce to brace itself for tens of thousands of COVID-19 patients, GNYHA identified what member staffing efforts could be activated and what supplementary staffing activities GNYHA could support. Leveraging relationships with outside organizations and Federal, State, and local governmental resources, GNYHA quickly put strategies in place to add necessary flexibility to the available workforce and further boosted the workforce in anticipation of the imminent need.

GNYHA MEMBER HUMAN RESOURCES CONTACT LIST

Prior to surge planning, GNYHA maintained a Human Resources Director staffing contact list for its member hospitals and health systems. Unlike other member staff lists, the Human Resources Director staffing list is only used intermittently for labor-related issues, legal issues, and training and staff development funding opportunity issues. Concerned that the "right people" were not on the list, GNYHA sent a March 25 Member Letter to request a single staffing contact from each member for COVID-19-related staffing information. The new contact data was used to update GNYHA's existing database of Human Resources Directors. GNYHA regularly updated this database in collaboration with colleagues from the Healthcare Association of New York State (HANYs). Governor's Office staff requested information from the database to contact hospital and health system staffing leads about the availability and use of the new State Volunteer Portal (see below).

FEDERAL AND STATE REGULATORY WAIVERS

The Centers for Medicare & Medicaid Services issued several blanket waivers on March 30 (updated on May 15) to Part 42 of the Code of Federal Regulations. The blanket waivers (including permissions for licensed physicians and non-physician providers to practice in states other than the one in which they are licensed) were made retroactively effective beginning March 1 through the duration of the public health emergency (PHE) declaration by the Trump Administration. The waivers relieved hospitals of potential Federal legal challenges in the PHE's aftermath.

At the State level, Governor Andrew Cuomo issued several "disaster emergency" Executive Orders (EOs) beginning March 7 outlining temporary suspensions to laws and regulations in response to COVID-19. The EOs included modifications to existing rules that allowed hospitals to bypass requirements around the licensure and credentialing of many potential frontline health care workers to address hospitals' immediate staffing needs. EOs containing staffing waivers (many of which were issued on March 23) also included extensive indemnification directives allowing frontline health care providers to deliver care in good faith to COVID-19 patients without the worry of potential litigation due to situations that could arise related to the COVID-19 emergency. The most important waiver allowed out-of-state licensed doctors and nurses to practice medicine and nursing in New York. New York generally does not participate in health professional compacts to permit reciprocity with other states regarding licensure.

INITIATIVES TO REDEPLOY EXISTING STAFF

Institutions rethinking the roles of existing staff reported redeployments as early as the beginning of March. Redeployment maximizes the flexibility of available resources and bypasses the time- and resource-heavy onboarding process. Additionally, incumbent staff are up to date in institutional credentials, and depending on their normal scope of work, require minimal training to immediately fill staffing gaps in a hospital's COVID-19 response plan. An example of a successful staff redeployment is research staff helping with record-keeping and consenting of patients. Those in research positions at hospitals are already knowledgeable about the regulatory requirements of patient privacy and documentation, are familiar with their hospital's existing policies and operations, and would require only targeted training to shift roles.

Lessons Learned: Surge Staffing

Redeployment of Ambulatory and “Elective” Staff

Because of the cancellation of elective procedures, including ambulatory care visits, most hospitals had a large cohort of staff who could be redeployed to care for COVID-19 patients in the hospital’s inpatient units. Hospital leaders evaluated licensed staff to determine their level of experience, familiarity, and comfort with assuming redeployment roles and then reassigned staff based on these factors. Hospital leaders were particularly concerned about not putting at-risk staff (e.g., older staff) in harm’s way and were careful not to assume that a licensed professional had worked with certain conditions or equipment recently and could handle the new assignments. Staff also were used in non-traditional roles. For example, physical therapy and occupational therapy staff were used to regularly “prone” COVID-19 patients to potentially delay or obviate the need for placement on a ventilator.

Redeployment of Residents/Fellows

In February, the Accreditation Council for Graduate Medical Education (ACGME) began releasing statements about COVID-19. Statements included guidance on the flexibility required to redeploy residents as part of their hospital’s pandemic response plan. In March, ACGME reported a new three-stage pandemic model that would permit teaching hospitals to self-declare pandemic status, temporarily suspending many existing educational requirements without jeopardizing program or institutional accreditation. Because New York has the largest number of residents/fellows in the country (approximately 15,000), the ability to use residents and fellows in new ways was crucial to addressing staffing needs.

GNYHA staff participated in an emergency call with ACGME leadership and New York City graduate medical education (GME) leadership in mid-March during which the GME leaders discussed what was happening “on the ground” in New York and requested the relaxation of otherwise applicable rules. Following the release of the new framework, teaching hospitals that declared pandemic status could shift their focus solely to patient care by redeploying residents and fellows across programs to provide care to the increasing volume of COVID-19 patients or otherwise contribute to patient care needs (e.g., providing telehealth services to non-hospitalized patients). Teaching hospitals reported that, notwithstanding the welcome flexibility, they were careful not to put trainees in situations for which they were not prepared and ensured that supervision addressed any of the trainees concerns.

INITIATIVES TO INCREASE SUPPLY OF STAFF

GNYHA developed strategies to help members increase their frontline staff by providing options to connect with temporary employees and volunteers. GNYHA also sought waivers to build a new pool of potential staff. From the beginning of the surge, hospitals reported that they were most in need of critical care nurses and respiratory therapists to assist with COVID-19 patients. GNYHA provided members with new staffing options through its own expertise and collaboration with decision-makers.

Staffing Agencies

When Governor Cuomo issued a directive to hospitals requiring an increase of staffed inpatient beds by 50%, many GNYHA member hospitals activated their surge staffing contracts to identify and bring in additional staff. GNYHA partnered with AMN Healthcare, a private organization that is part of the Premier, Inc., portfolio of companies to assist with staffing needs. AMN contracts with staffing agencies and helps connect hospitals with them. Working with GNYHA, AMN developed a “rapid staffing response program” that provided hospitals with a network of regional and national nurse staffing agencies. GNYHA informed AMN of the evolving requirements and waivers for health care professionals in New York so that the resulting platform could respond in real time to members’ needs while remaining compliant. To support rapid deployment, AMN’s system streamlines licensure and other documentation requirements and provides standardized invoicing and other

Lessons Learned: Surge Staffing

relevant financial reporting. Hospitals could access the program free of charge and were not obligated to use the system once they registered. According to AMN, between five and 10 health systems signed up for this service.

Additional Locally Available Staff

GNYHA member hospitals and affiliated health professional schools contacted alumni of those schools to gauge interest in assisting. Traveling nurse and doctor companies were also identified. In some cases, affiliated health insurance plan care management nurses and other staff were leased from the insurance plans to assist with managing the patient load in the hospitals.

Medical Student Early Graduation

Most teaching hospitals released medical students from their clinical clerkship assignments in early March out of concern for their safety and the availability of adequate supervision. However, because the surge occurred relatively late in the usual medical school academic year, leaders of academic medical centers considered early graduation of final-year medical students so that they could be deployed as physicians to better assist hospitals in need.

This required a two-step process. First, the Associated Medical Schools of New York (AMSNY) successfully advocated with the Liaison Committee for Medical Education and the State Education Department (SED) to permit early graduation of these final-year medical students. GNYHA and AMSNY then advocated for a waiver (granted on April 9) to permit teaching hospitals to temporarily employ medical school graduates who have been accepted into an accredited residency program to provide patient care under the supervision of a licensed physician (existing law and regulation would not permit a medical school graduate without any residency training to practice medicine as a physician in New York). Teaching hospitals integrated medical school graduates into teams involved in both direct and indirect care of COVID-19 patients, depending on need. Some new graduates were integrated into the direct care teams and helped care for patients under the supervision of a licensed physician. Others were deployed as scribes and updated patients' family members, freeing up more experienced providers to care for high-acuity COVID-19 patients.

New York City Medical Reserve Corps

The Medical Reserve Corps (MRC) is a national network of local groups of volunteers that can help with public health and emergency preparedness and response activities. The New York City Department of Health and Mental Hygiene (DOHMH), in collaboration with the New York City Office of Emergency Management (NYCEM), manage the New York City MRC. The network of volunteers is alerted to volunteer opportunities during citywide health emergencies.

GNYHA worked with DOHMH and NYCEM during the COVID-19 pandemic to adapt the MRC system to respond to the immediate needs of New York City hospitals, nursing facilities, and other health care organizations. DOHMH sent a March 22 letter instructing New York City hospitals to complete an online survey on their staffing needs, which the MRC system used to match appropriate volunteers and refer them to the requesting hospital. A March 28 GNYHA e-mail to its New York City Human Resources Director contacts described the information needed to maximize the likelihood of getting volunteers through the MRC. GNYHA then put certain Human Resources Directors directly in touch with the MRC system manager to explain exactly what they were seeking in terms of staff. According to late-May NYCEM data, approximately 2,000 MRC volunteers were contracted to health care organizations in response to COVID-19 needs.

A specific staffing need that arose during the COVID-19 response was for mortuary staff. The New York City Office of Chief Medical Examiner (OCME) and NYC hospitals identified the need for additional mortuary staff to support the high volume

Lessons Learned: Surge Staffing

of fatalities in hospital morgues and external refrigerated trailers. OCME advised all New York City hospitals on April 3 to increase their mortuary staff by three to four times to help manage decedents, assist with paperwork, communicate with funeral homes and families, and provide security for the refrigerated trailers deployed by NYCEM. Hospitals struggled with internally surging mortuary staff due to limited resources, and soon requested assistance from the City. “Mortuary staff” was added to the available jobs on the MRC portal, and on April 9, hospitals were able to request additional staff. Through the MRC, a total of 115 volunteers were assigned to mortuary staff positions across 27 New York City hospitals. After the initial MRC referral, hospitals were responsible for connecting with volunteers for orientation, onboarding, and scheduling.

To further support hospitals with mortuary operations, GNYHA contacted numerous associations (funeral director and veterinary) as their members were considered more willing to volunteer in based on their experience working with the deceased and grieving families. Members of these associations were advised to go through the MRC process to sign up for positions listed on the site.

New York State Volunteer Portal

Recognizing that some staffing resources may not be available to hospitals through conventional avenues of temporary employment, the Governor’s office issued a March 20 letter asking all health care professionals in New York who could assist in the COVID-19 effort to complete an online survey with information describing their licensure status and experience. According to SED officials, they pulled contact information for 600,000 active and 59,000 inactive health care professionals in New York who were then proactively contacted.

Beginning in mid-March, GNYHA staff were in regular contact with the Director of Workforce Development in the Governor’s office related to the development of the State Volunteer Portal that health care organizations could use to recruit additional staff. Salesforce, in collaboration with the Governor’s office, developed the portal platform. GNYHA and HANYS staff reviewed and gave feedback on the set of intake information that State call center staff used to identify the “right people” for the portal. GNYHA and HANYS staff also provided feedback on how the system could be made available to hospitals in need, the design of the platform to avoid an initial scramble for staff, what data could be used to determine priority facilities for access, the elements to be included in a *Hospital Staffing Need Request Form*, and other operational considerations. GNYHA also worked with staff from the Governor’s office to create a special communication to request volunteers from among New York State-licensed respiratory therapists.

The State provided initial portal access to hospitals/health systems in early April in a staged manner. A New York State Department of Health Clinical Review Committee considered hospital requests for staff, cross-referenced Hospital Emergency Response Data System information, and determined how many volunteers to “make available” to the requesting hospital. Based on an agreement with GNYHA and HANYS, hospitals had 48 hours to follow up with the available staff and “hold the person” for placement. If a hospital didn’t “claim” the person, other hospitals in need then could access that potential volunteer.

Approximately 95,000 medical professionals were listed in the portal as of April 21. (Those individuals who volunteered directly from out-of-state were also directed to sign up with the portal.) Fifty-three hospital systems and approximately 350 nursing homes (including every downstate nursing home) were provided with access. More than 12,000 professionals were approved for sourcing by 25 hospital systems. In response to requests for more specific search capabilities, the State added additional custom filters. For example, the State added new searching capability for dialysis nurses and techs in response to hospital feedback that individuals with those specific skills were needed. The State also provided enhanced guidance

Lessons Learned: Surge Staffing

to hospitals on how to effectively search (for example, how to access only those volunteers who completed the call center follow-up survey). For nursing homes, State Volunteer Portal call center staff asked a specific question about nursing home interest so that those individuals could be directed to available nursing home positions.

Support for Recruitment of Staff

While many qualified staff were available through the State and MRC portals, conducting searches and recruiting and onboarding staff still required a significant amount of time. The City's Department of Small Business Services contacted many facilities, particularly those based in New York City, to offer the services of the New York City Workforce1 Centers to assist with sourcing and recruitment. 1199SEIU United Healthcare Workers East staff also assisted with this effort. Separately, LinkedIn and Indeed volunteered to help hospitals with recruitment support at no charge.

Supports for Volunteers from Out of Town

Many health care professionals from around the US volunteered to come to New York to help with patient care. Many of these individuals made themselves available by signing up via the State Volunteer Portal or the New York City MRC. As hospitals identified a need for additional specialized workers, national organizations were contacted. For example, when nurses with dialysis experience were needed to supplement available in-state resources, GNYHA contacted the Nephrology Nursing Certification Commission (NNCC) to request assistance bringing staff to New York. GNYHA drafted a tweet for the NNCC to alert its certificate holders about the immediate need.

To reduce expenses for hospitals in need of staff, JetBlue and other airline carriers provided free flights to bring medical professionals to New York. GNYHA worked closely with JetBlue to design the free flight program, announcing its availability on April 8. The JetBlue program was structured so that medical professionals with an offer letter or other documented commitment from a New York hospital could contact a special JetBlue reservation system to obtain free roundtrip flights. GNYHA also worked with the local hotel industry to identify lower-cost lodging options for individuals deployed to assist. These hotel rooms were made available at discounted rates for hospitals with staff needs. The State also used GNYHA and HANYS contacts to directly e-mail hospital Human Resources Directors about updates on the various airline programs and hotel options.

Matching Staff Between Upstate and Downstate Hospitals

The Governor's office met with GNYHA and HANYS in early April to discuss bringing staff from upstate hospitals to downstate hospitals. Some upstate hospitals had reportedly furloughed staff because of the cancellation of elective procedures, and other upstate hospitals were considering this step. Upstate hospitals were initially very reluctant to share staff with downstate hospitals. HANYS solicited interest from Iroquois Healthcare Association members and other upstate hospitals about their interest in this approach. The upstate hospitals generally expressed more interest in taking downstate patients than sharing staff.

GNYHA and HANYS held a joint webinar on April 6 allowing Cayuga Health System to describe a leasing arrangement with a downstate hospital to share staff. Cayuga was also matched with other downstate hospitals to potentially share staff. A handful of upstate hospitals signed leasing arrangements for staff with a small number of downstate hospitals.

GNYHA and HANYS also contacted New York State Nursing Association (NYSNA) representatives at the request of the Governor's office to gauge interest in approaching downstate hospitals about using nursing staff who had been laid off from upstate hospitals. Certain downstate hospitals were solicited, but whether any signed an arrangement via NYSNA is unclear.

Lessons Learned: Surge Staffing

STAFFING CHALLENGES

Notwithstanding these efforts, there were challenges in implementing effective strategies to find and recruit additional staff to assist with the enormous patient surge.

Staffing Agency Pricing

As additional hot spots arose around the country, pricing for surge staffing became significantly higher than was initially expected. Staffing agency representatives reported that usual prices of \$50-75 per hour for nurses were quickly increasing and requests arrived from around the country with offers of up to \$150 per hour. Because staffing is a market-driven system, how to address this problem was unclear, particularly for safety net hospitals and smaller health care organizations.

Building and Launching the State Portal

The State portal was well designed, according to hospital staff who used it. Unfortunately, because it was built from scratch, it took several weeks to design and deploy. Also, many people listed in the portal were not appropriate to care for COVID-19 patients, including many older volunteers who were at increased risk. The process to make the volunteer listings available to hospitals was also time-consuming in that candidates were offered to hospitals sequentially. The State also designed the system to rely on hospitals indicating that they had matched with a candidate. However, if a hospital did not complete this final step, other hospitals wasted time contacting candidates who had already accepted assignments, frustrating both the candidates and the hospitals.

Using the MRC

The City's MRC system, which was designed to serve as a database of volunteers, did not easily support the rapid skill-specific matching that was needed during the COVID-19 patient surge. GNYHA worked with DOHMH and NYCCEM to adjust the system and the process, which led to gains in effectiveness.

Waivers for Medical Residents

Conflicting directives from certain residency program oversight bodies created challenges. While a March 23 State-issued EO permitted the suspension of physician trainee work hour limits, the ACGME maintained work hour limits for trainees to no more than 80 hours per week. Many member hospitals believe this remaining restriction limited their ability to fully use the resident workforce during the surge. Separately, the US Department of State and the Educational Commission for Foreign Medical Graduates stated that because the J-1 visa is strictly a training visa, J-1 visa holders in medical residency programs could not provide services outside the auspices of training. Member hospitals reported that this regulation prevented many qualified and willing J-1 visa holders from providing services beyond their accredited residency training programs.

Recruiting Ancillary Staff

Some hospitals reported having difficulty finding enough ancillary staff such as patient care technicians, certified nurse assistants, and environmental services staff. One member noted, "if you have additional beds and you have licensed staff but you don't have other members of the care team, it is not going to work." Because there is no single recruitment source for these roles and they are not licensed, recruiting additional staff for these roles was difficult.

Lessons Learned: Surge Staffing

RECOMMENDATIONS FOR FUTURE RESPONSES

Extending staffing waivers for the duration of the State's emergency disaster declaration (rather than in 30-day periods) would be beneficial. Such waiver extensions also would allow hospitals to optimize their staffing workforce without worrying about waiver renewals.

The development, maintenance, and availability of a surge staffing system also would be beneficial. New York State does not regularly collect data on practice patterns for licensed health care professionals. Having this information readily available would help to identify gaps and focus attention on them. A statewide surge staffing system also would facilitate the movement of licensed professionals from an unaffected region to areas directly impacted by the emergency.

The State Volunteer Portal platform should be maintained and updated regularly. SED should collect detailed information about skills, certifications, and other pertinent data from licensed professionals who are willing to deploy during emergencies.

The New York City MRC system's ability to adapt to the needs of a PHE should be evaluated. The City should consider what special mechanisms it needs to add to become more responsive to the needs of the health care delivery system if the MRC is to be relied upon for future emergencies.

New York State and City also should consider the efficacy of a group purchasing arrangement or similar structure to mitigate pricing spikes for staffing agency resources. Such an arrangement might be difficult to implement but government agencies should determine whether it is possible to keep prices at a reasonable level or provide governmental subsidies to address increased pricing.

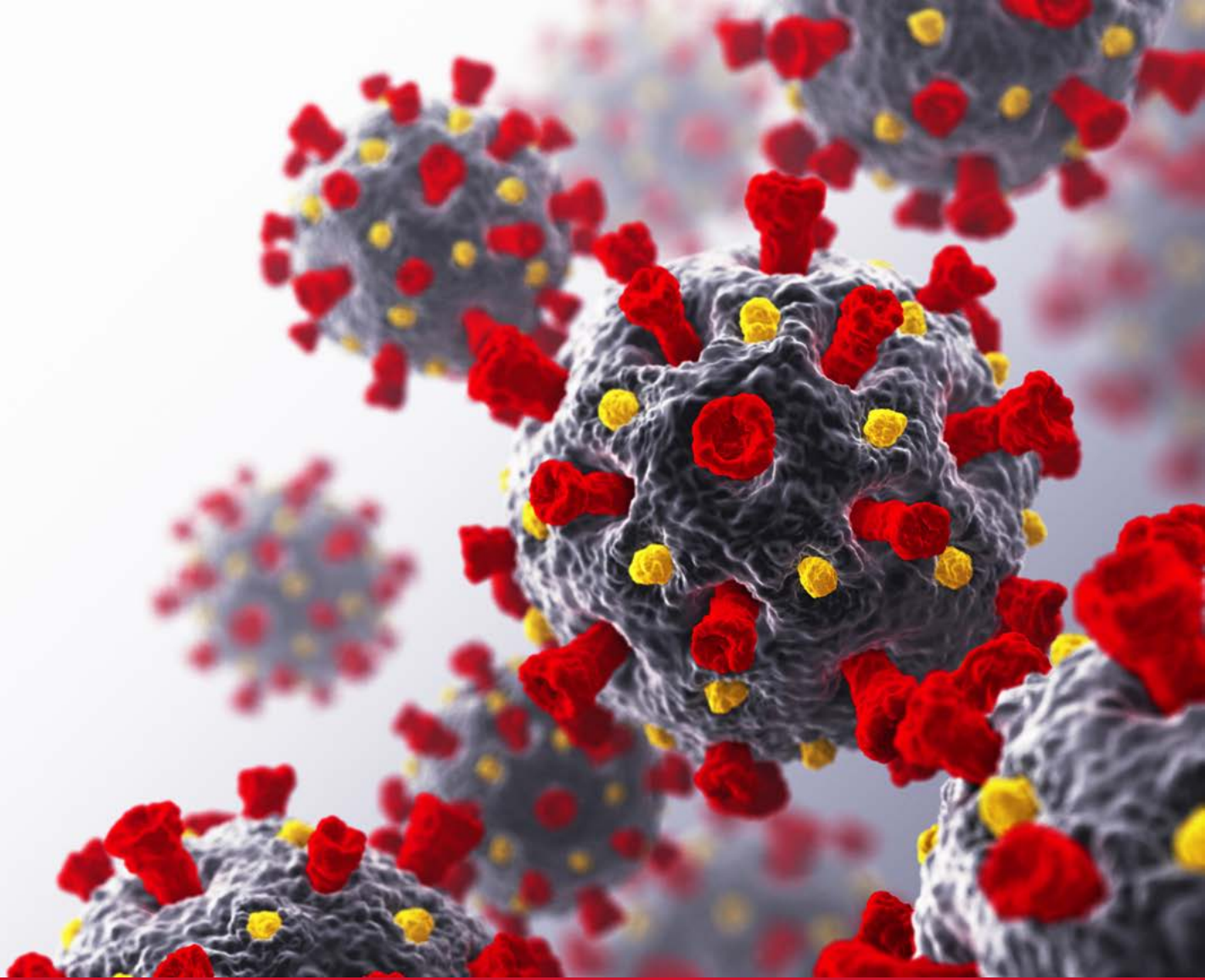
Accreditation authorities and State officials were responsive to the needs of teaching hospitals and medical schools seeking to deploy students and trainees appropriately during New York's first surge of the pandemic. Accreditation and regulatory agencies should ensure that in designing a "permanent" response structure, they recognize that situations are fluid and significant additional flexibility might be required.

Separately, the State and localities should implement a system to rapidly recruit, train, and deploy ancillary staff to needed sites.

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GNYHA LESSONS LEARNED/PREPARATION FOR FUTURE COVID-19 WAVES

Topic: Personal Protective Equipment and
Scarce Patient Care Equipment and Supplies

For limited distribution



Lessons Learned: PPE and Scarce Patient Care Equipment and Supplies

KEY CONCEPTS

Space, Staff, and Stuff

When planning for emergencies within health care, the focus is often on being prepared to manage a surge of patients—whether from an infectious disease, a natural disaster, or a terrorist event. In planning for such events, hospitals and health systems consider three major categories of need: 1) space: how will space in and around the facility be used for patient care and ancillary services, 2) staff: what kind and number of staff will be needed, and 3) stuff: what equipment and supplies will be needed to protect staff and care for patients.

Standards of Care

Related to this is the concept of standards of care. By definition, an emergency is when need outstrips resources. Even with the best planning, there will be situations when resource decisions must be made with the goal of doing the most good for the most people. Standards of care—conventional, contingency, and crisis—can guide planning and decision-making. As an organization or community moves from conventional to contingency to crisis due to a lack of available resources to meet patient needs, different standards are applied, which impacts how resources are allocated.

BACKGROUND

Personal Protective Equipment (PPE) Supply Chain and Emergency Response

When the supply chain contracts—either due to supply chain disruptions that reduce supply or emergency events that increase demand—hospitals and health systems rely upon their traditional supply chain mechanisms, regulatory waivers that alter the terms of use, and access to government emergency stockpiles. Below is more detail about each of these areas.

Health Care Supply Chain Function

Hospitals and health systems all have a professional supply chain function, sometimes also called materials management. Staff in this function work closely with a wide variety of departments to source, procure, and manage the inventory of items and equipment needed for hospital operations, and clinical care and procedures. Supply chain leaders often contract with group purchasing organizations (GPOs) and develop independent strategies.

Health Care Group Purchasing Organizations

Many hospitals and health systems in the tristate region and across the US also belong to large GPOs that can source scarce products; aggregate volume for large bulk purchases; identify new sources of product; offer members competitive pricing for goods and services; and provide expertise in areas like inventory management. Due to their relationships with manufacturers and distributors that span the globe and their deep understanding of the regulatory environment, GPO staff also provide members with critical situational awareness and information that is especially important during supply contractions and emergencies.

Resource Request Process

It is understood that during emergencies, hospitals and health systems may deplete inventories of needed resources. Resource request processes are therefore a key aspect of emergency planning. Regulatory bodies require that hospitals across the US be able to maintain operations on their own for 96 hours. When resources are no longer available, the expectation is that facilities will work within their normal supply chain and distribution channels and within their broader health system, if they are part of one; call upon neighboring facilities through established mutual aid agreements; and work with their hospital or health care association, if they belong to one.

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After all these options are exhausted, the facility can then formally request assistance to access the needed resources via its county or city emergency management agency. The locality is expected to meet the need through stockpiles or sourcing contracts. If the locality cannot meet the need, then the request is elevated to the state for fulfillment. And if the state cannot meet the request it is elevated to the Federal government for fulfillment. The local, state, and Federal pathway is well established, with specific protocols and forms used nationwide.

Government Stockpiles

Since 9/11, many jurisdictions have worked to establish and maintain stockpiles or caches of emergency supplies. Jurisdictions must allocate money towards stockpiling, make decisions about what products to stockpile, how much to stockpile, and have systems in place to maintain or rotate products. Many county and state emergency management agencies maintain stockpiles of items that are frequently needed during disasters such as items needed for sheltering operations. They may also have standing contracts for other items such as portable generators or lights. Some jurisdictions also maintain separate health care stockpiles and complementary warehousing capabilities. Both New York City and New York State maintain health care-specific stockpiles. The New York City Department of Health and Mental Hygiene (DOHMH) operates and maintains the New York City stockpile, and the New York State Department of Health (DOH) maintains the New York State Medical Emergency Response Cache. At the Federal level, the Strategic National Stockpile (SNS) is operated by the Office of the Assistant Secretary for Preparedness and Response within the US Department of Health and Human Services (HHS).

Regulatory Environment

The US Food and Drug Administration (FDA) regulates a broad range of product types within the health care supply chain, including medications, diagnostic tools, PPE, and medical devices. Once a product is approved for use, FDA holds users to the Manufacturer Proper Use guidelines, which detail how to maintain and use the product. FDA has the power to issue Emergency Use Authorizations (EUA), which enable use of a product that possibly did not go through the usual approval process. EUAs become extremely important during emergency incidents.

Centers for Disease Control and Prevention

During communicable disease outbreaks the Centers for Disease Control and Prevention (CDC) issues guidance on PPE use by health care providers. Within infection control are varying types of precautions—contact, droplet, and airborne—which are set based on what is known about the pathogen and the method of transmission. For each type of precaution, distinct combinations of PPE are recommended.

CDC issues guidance and other resources to assist hospital and health system infection prevention and control staff in setting internal policies and procedures about patient, visitor, and staff protection. Guidance is often interim and updated frequently as more information about an emerging disease is learned. In developing and updating guidance, CDC also integrates standards of care: conventional, contingency, and crisis. The National Institute of Occupational Safety and Health (NIOSH) is one of the CDC's research arms. Its research efforts, which include PPE, inform CDC-developed guidance and resources.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA), is charged with ensuring safe and healthful working conditions by setting and enforcing standards and providing training, outreach, education, and assistance. Within the infection control context, OSHA ensures that hospitals and other health care facilities follow the health care worker safety guidance issued by other agencies, such as the CDC.

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Role of State and Local Health Departments

Building off CDC guidance, state and local health departments often issue additional guidance about infection prevention and control, specimen collection and testing criteria, and other areas that impact hospital and health system response. At times, guidance provided at various levels of government may be in conflict, and hospital and health systems leaders must navigate the differences.

GNYHA Role in Emergency Response

Since 1999, GNYHA has actively supported hospital and health system members during emergencies. The organization is a bridge between member hospitals and the many government agencies involved in a response. During emergencies, GNYHA staff produce and distribute critical information to members, inform government agencies of impacts on the hospital sector, and work to solve current and anticipated issues faced by hospital and health system members.

The supply chain is always a key aspect of an emergency event. During emergencies GNYHA has worked closely with staff from its related organizations: Acurity, a health care supply chain GPO, and Nexera, a health care supply chain consulting group. Staff at these organizations have expertise in hospital supply chain operations, product classes, raw materials, and manufacturer and distributor networks. GNYHA sold these companies in February 2020. Once COVID-19 began impacting the New York region, these historic relationships were re-established to meet the needs of the members and the region. GNYHA established and paid for contracted services to meet member needs and assist with broader regional supply chain challenges.

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COVID-19: PPE

During the COVID-19 patient surge, which primarily occurred throughout March and April 2020, the tristate region's hospitals and health systems operated in an environment of PPE scarcity. This scarcity was created by a combination of enormous increases in demand due to the pandemic and a significant supply contraction driven primarily by the shuttering of factories in Wuhan Province, China, in early 2020. Further exacerbating supply chain shortages was an infection control issue in January with isolation gowns that required the recall of more than 9 million gowns, many of which were part of prepackaged surgical kits.

Our collective lack of knowledge of the novel pathogen, its fast-moving spread, the need for many more hospital employees to use higher levels of PPE, and PPE constraints all contributed to frequent changes in public health guidance about PPE use. Adding to these challenges were dire modeling predictions estimating the need for 40,000 or more hospital beds in New York State alone. Under these extremely difficult circumstances, the region's hospitals and health systems made decisions, with the paramount goal always being the safety of staff and patients.

Below is a week-by-week chart for February through April that details and reviews some key shortages, agency guidance, and GNYHA communications affecting New York City facilities.

Week	Number of Hospitalized COVID-19 Cases, Monday	Scarce Items	Public Health Guidance	GNYHA Actions
Feb 3	Data not yet collected		<ul style="list-style-type: none"> DOH sends CEO Letter with suggestions about PPE shortages, links to CDC infection control guidance CDC issues Level 4 travel warning for China 	<ul style="list-style-type: none"> February 7 communication about DOH CEO Letter and CDC/NIOSH guidance on conserving supplies
Feb 10	Data not yet collected		<ul style="list-style-type: none"> CDC and NIOSH published Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings 	
Feb 17	Data not yet collected		<ul style="list-style-type: none"> DOH began COVID-19-specific daily hospital survey, including ventilator questions 	
Feb 24	Data not yet collected	N95 respirators, surgical masks	<ul style="list-style-type: none"> DOH issues written guidance on appropriate use and conservation of N95 respirators CDC issues Level 4 travel warnings for Iran, South Korea, and Italy 	

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Week	Number of Hospitalized COVID-19 Cases, Monday	Scarce Items	Public Health Guidance	GNYHA Actions
March 2	Data not yet collected	N95 respirators, surgical masks	<ul style="list-style-type: none"> DOHMH releases document on strategies for extended use and reuse of PPE FDA and CDC increase access to respirators, including N95s, for health care personnel by granting EUA to certain industrial respirators 	
March 9	Data not yet collected	N95 respirators, surgical masks	<ul style="list-style-type: none"> CDC updates infection prevention guidance to say that face-masks are acceptable alternatives to respirators when the supply chain is constrained The Centers for Medicare & Medicaid Services (CMS) sends a memorandum to surveyors on the expanded range of acceptable protection OSHA Memorandum on Temporary Enforcement Guidance – Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Face Pieces During the COVID-19 Outbreak 	<ul style="list-style-type: none"> GNYHA, NYCEM, and DOHMH create resource request process for member hospitals that flows through GNYHA. To support this, GNYHA creates a standardized request form and dedicated e-mail address. GNYHA sends a member communication on CMS and CDC Guidance on Health Care Worker Masking and Actions to Mitigate Supply Shortages
March 16	103	N95 respirators, surgical masks	<ul style="list-style-type: none"> CDC/NIOSH updates guidance for the use of expired PPE and emphasizes other conservation strategies for face masks, eye protection, and isolation gowns March 22: FDA publishes guidance document on Enforcement Policy for Ventilators and Accessories and Other Respiratory Devices During the Coronavirus Disease 2019 Public Health Emergency 	<ul style="list-style-type: none"> GNYHA shares conservation strategy document developed by Premier, Inc. GNYHA staff person assigned to NYC Emergency Management (NYCEM) warehouse to assist with resource request process GNYHA works collaboratively with City Hall, NYCEM, and DOHMH to develop a PPE allocation methodology
March 23	2,213	Ventilators, N95 respirators, surgical masks	<ul style="list-style-type: none"> CDC publishes strategies to allocate ventilators from stockpiles to facilities 	<ul style="list-style-type: none"> GNYHA shares bulletin describing numerous strategies being employed to increase PPE availability, including purchases by GPO, City, State, and Federal purchases and allocations, hospital system purchases, and corporate donations GNYHA shares working protocol for supporting two patients with a single ventilator and holds webinar for clinicians on considerations and clinical management New York City consolidates all medical-grade PPE at DOHMH warehouse to support inventory and allocation efficiency GNYHA works collaboratively with City Hall, NYCEM, and DOHMH to develop PPE and ventilator allocation methodology In New York City, weekly PPE pushes to hospitals begin based on available supply and collaboratively developed allocation methodology

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Week	Number of Hospitalized COVID-19 Cases, Monday	Scarce Items	Public Health Guidance	GNYHA Actions
March 24	2,859	N95 respirators, surgical masks	<ul style="list-style-type: none"> March 25: FDA issues Enforcement Policy for Gowns, Other Apparel, and Gloves During the COVID-19 Public Health Emergency 	<ul style="list-style-type: none"> GNYHA convenes health system facility engineers and physicists to discuss best practices for sterilizing N95 masks Initial batch of ventilators from government stockpiles distributed to New York City hospitals using allocation methodology
March 30	7,589	Ventilators, N95 respirators, surgical masks	<ul style="list-style-type: none"> DOH adds PPE questions to hospital COVID-19 daily survey Governor and hospital and health system CEOs review PPE and ventilator inventories CDC issues guidance on optimizing the supply of N95 respirators DOHMH issues Health Alert #9 strongly recommending that all health care providers conserve PPE DOH issues recommendations for when PPE is in short supply or unavailable 	<ul style="list-style-type: none"> Initial batch of ventilators from government stockpiles distributed to New York City hospitals using allocation methodology On April 5, GNYHA shares bulletin on a call GNYHA participated in with Gov. Andrew Cuomo, James Malatras, PhD, President, SUNY Empire State College, and DOH Commissioner Howard Zucker, MD. Includes attachment of hospitals projected to have potential ventilator shortages.
April 6	11,654	N95 respirators, surgical masks	<ul style="list-style-type: none"> DOHMH issues updated guidance on reuse and extended use of PPE 	<ul style="list-style-type: none"> GNYHA shares bulk hospital vaporizer guidance due to ongoing concerns of maintaining external O2 tanks with record numbers of patients on ventilators
April 13	11,698	Isolation gowns		<ul style="list-style-type: none"> GNYHA releases bulletin on optimizing the supply of isolation gowns
April 20	9,901	Isolation gowns		
April 27	7,785	Isolation gowns	<ul style="list-style-type: none"> OSHA issues guidance on disinfecting N95 respirators for reuse CDC issues new guidance on strategies to optimize supplies of disposable medical gloves in health care setting 	<ul style="list-style-type: none"> GNYHA shares news on reduction of PPE HERDS questions on PPE availability and burn rate to three times daily

Aspects of Response

Below several aspects of the COVID-19 response related to PPE and equipment are detailed.

Many Stakeholders

Many different agencies and organizations are involved in emergencies, and COVID-19 was no exception. However, given the duration and uniqueness of the response, additional stakeholders became involved, and in some cases, there were varying lines of communication and chains of command. There also was no agreed-upon set of metrics to provide situational awareness and inform decision-making about PPE allocation. Below is a list of involved stakeholders:

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- Hospitals and health systems: leadership, supply chain leaders, board members
- Associations: GNYHA, Healthcare Association of New York State, regional associations
- Affiliated GPOs: Acurity, Nexera, Premier
- County emergency management and public health agencies: NYCEM, DOHMH, county emergency management offices
- City/county executives: City Hall, Mayor's supply chain taskforce, rapid support team
- State emergency management and public health agencies: Department of Homeland Security and Emergency Services (DHSES), DOH
- State executives - Governor's Office
- Federal emergency management and public health agencies – Federal Emergency Management Agency, Department of Homeland Security, CDC, HHS Region II
- White House
- Private donors

Lack of Health Care Supply Chain Knowledge

The health care supply chain is distinct from other supply chains given its breadth, unique regulatory environment, and reliance on raw materials and manufacturing centers that span the globe. It comprises a multitude of distinct supply chains. A finite number of individuals understands the complexities of the health care supply chain, with their expertise invaluable in understanding product specifications; sourcing; procurement, including equivalent products; and usage and burn rates. These individuals also have established relationships with key supply chain partners to solve problems in real time. Unfortunately, this kind of expertise rarely exists in public health or emergency management agencies throughout government. Over the past several years, HHS and DHS have focused on better understanding the health care supply chain, but in-house expertise is still lacking, which hampers response efforts during emergencies.

Reduced Access and Increased Need

In February, hospitals and health systems throughout the New York metro area began to experience spotty and inconsistent deliveries of PPE products due to manufacturer allocations and supply chain disruptions caused by a combination of the large surgical gown recall, the Wuhan factory shutdown, and increasing global demand for PPE as COVID-19 began spreading beyond China.

In late February, with travel advisories issued for additional countries—including Iran, South Korea, and Italy—New York area hospitals increased their use of travel screening and standard infection control practices, amplifying the demand for PPE. By March 1, with the first imported case in New York City and signs of community transmission, hospitals across the region began readying surge plans.

Evolving Scarce Supplies

While an environment of scarcity has permeated the entire COVID-19 response, particular PPE items and equipment became extremely scarce at different points, as indicated in the chart above. In the first few weeks of March, N95 respirators were of the greatest concern. And by late March, with the number of patients requiring ventilation skyrocketing, ventilators and all their component parts were in high demand. This increased the need for ventilation also drove the need for ventilator-related medications, including sedatives and paralytics. By early April, isolation gowns were in extremely short supply. Addressing these extreme shortages was very challenging; strategies used included a combination of conservation, non-traditional sourcing, use of alternative products, and allocations from government stockpiles.

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Gray Market

By mid-March, with severe shortages of PPE and COVID-19 hospitalizations beginning to climb rapidly, an enormous gray market of PPE and equipment developed, seemingly overnight. GNYHA and Acurity staff were inundated with offers of supplies and connections to suppliers. Acurity established a substantial operation to vet these offers and work with GNYHA members and Acurity customers in need of additional supplies. Hospitals, health systems, and city and state governments also worked to navigate the gray market, which was populated by both legitimate and illegitimate suppliers and brokers.

Local and Non-Traditional Manufacturing

With traditional supplies very limited and needs so vast, some non-health care manufacturers began pivoting to produce PPE such as face shields, surgical masks, and isolation gowns. At first quantities were low but began to rise steadily. In New York City, the Economic Development Corporation coordinated local manufacturing, with most product going directly to the DOHMH warehouse for distribution to hospitals and other health care facilities. GPOs worked with non-traditional manufacturers to educate them on the types of PPE most in need and complementary safety requirements so that they could begin production. For example, Ford Motor Company began producing reusable isolation gowns out of air bag materials.

Donations

Structures also were established to accept donations. GNYHA established a program to accept corporate donations of N95 respirators, gloves, gowns, goggles, and face shields, which were given to hospitals in need. New York City set up a centralized donation portal with health care-related products funneled to the same DOHMH warehouse for redistribution.

Difficulty Understanding Inventory Levels and Burn Rates

Throughout the COVID-19 response, it was difficult to know existing PPE inventory levels in hospitals and health systems. Several factors contributed to this:

- Supply chain staff within hospitals had difficulty tracking rapid changes in anticipated deliveries and stock received from emergency stockpiles, donations, and other sources
- Demand increased so rapidly that normal inventory control processes were altered
- These factors and the evolving nature of the situation also made it exceedingly difficult to calculate a true “burn rate” or usage rate for various products

DOH added a series of PPE questions to its Daily Health Emergency Response Data System (HERDS) Patient and Bed Summary Survey the week of March 30, which grew over time to feature a total of 85 separate questions. These questions asked the following about various items: number, burn rate, and days of supply remaining, and several questions asked about anticipated deliveries. Hospitals experienced significant challenges in answering these questions given the rapidly changing situation on the ground, both about demand due to increases in patients and supply due to confusion about deliveries.

Government agency staff were frustrated in trying to act on the data provided by hospitals. DOH staff spent hours daily calling facilities to verify information entered into HERDS, and staff at both New York City and State agencies working on allocation of emergency stockpiles struggled with how best to use the data collected. In making allocation decisions, staff tried to balance facility size, demand based on the number of COVID-19 patients, and existing inventory. This last factor that was the most difficult to gauge.

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Coordination with New York City Supply Chain Processes and Structures

GNYHA has a long-established role in New York City's emergency response infrastructure and given its historical supply chain expertise via Acurity and Nexera, it is often relied upon for supply chain-related issues. In New York City, several agencies have the ability to procure emergency items, including NYCEM, the Department of Citywide Administrative Services, and DOHMH. On March 13, Acurity staff began advising these agencies about sourcing, procurement, and inventory management, given the enormous supply needs and challenges.

Establishing a Resource Request Process

GNYHA and Nexera, in collaboration with NYCEM and DOHMH, established a formal resource request process for hospitals. They also placed a GNYHA liaison with clinical expertise at the NYCEM warehouse, created a resource request form, and established a dedicated e-mail address. From then on, all hospital resource requests were routed to GNYHA for submission to the NYCEM system.

As hospital requests rapidly increased, and with items spread across several different City warehouses, it became increasingly difficult to manage the requests in a timely way. Two decisions significantly improved the process. First, all medical grade PPE stock was sent to the DOHMH warehouse, which has a sophisticated inventory management infrastructure and can move large quantities of product to multiple locations quickly. Second, due to hospitals' enormous need and the amount of time spent adjudicating individual requests, weekly PPE deliveries were moved to a push model.

Using PPE Allocation Methodology for Weekly Deliveries

To inform weekly PPE deliveries, an allocation methodology was needed to equitably distribute the available supply. Working together, representatives from City Hall, NYCEM, DOHMH, GNYHA, and Nexera developed a formula that gave 60% weight to a hospital's proportionate share of all New York City beds and 40% weight to the hospital's proportionate share of all New York City's hospitalized COVID-19 patients. The formulas were then applied to the overall inventory for each PPE item in the DOHMH warehouse, and packages were assembled for each hospital or health system.

GNYHA shared information about these weekly PPE deliveries via formal member communications that also highlighted how hospitals could continue to request non-PPE items and make life safety requests for additional PPE if supplies ran desperately low before the next scheduled delivery. Over time, the weekly deliveries migrated to specific days of the week: Mondays and Tuesdays.

Leveraging Nexera's knowledge of the brands of products used by individual hospitals and health systems, attempts were made to match available products to the products traditionally used by various hospitals and health systems. To that end, in April, Nexera staff began making Sunday calls to review anticipated deliveries and ensure that the allocated products could be used. In May, as the patient surge abated and the regular supply chain began to bounce back, the calls were used to verify which products hospitals did not need. Over the weeks, many hospitals became increasingly less reliant on weekly PPE pushes. The weekly PPE deliveries formally ended the first week of June, with products still available via the regular resource request process.

Involvement with Mayor's Supply Chain Taskforce

Mayor Bill de Blasio created a Supply Chain Taskforce in early April that was led by former New York City Police Commissioner James O'Neill. GNYHA and Nexera staff worked with members of the taskforce to better understand the health care supply chain, and through routine calls, they aligned information from several data sources to inform City Hall and agency actions.

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The Taskforce included a Rapid Support Team (RST) to provide additional assistance to New York City's independent hospitals. Nexera and GNYHA staff participated in weekly calls with supply chain leads at these facilities and supported New York City's RST with sourcing and procurement. Nexera staff also supported broader City efforts to build an emergency stockpile to address PPE and equipment needs during future waves.

Counties Outside of New York City

GNYHA's member hospitals are located across Long Island and throughout the Hudson Valley, which experienced substantial COVID-19 patient surges during spring 2020. While GNYHA has relationships with the Office of Emergency Management (OEMs) in these counties, it is not as involved in the emergency response infrastructure there. GNYHA regularly communicated with the OEMs for Westchester, Suffolk, and Nassau counties, and sought to understand their stockpile inventories and resource request processes to better serve members there. GNYHA also served as a formal liaison in Westchester County OEM's resource request process, with all requests from member hospitals funneled through GNYHA, similar to the arrangement in New York City.

In general, the counties had very small stockpiles of PPE and received requests from various health care and first-responder agencies. Per the resource request process, once a county could not fulfill a request, it was submitted in the NY Responds system and routed to New York State, where it was to be fulfilled. Earlier this year, each county was required to submit a distribution plan to the DHSES, which was to guide distribution of PPE and other equipment from the State's stockpile or other sources.

Once resource requests were submitted by county OEM offices, there was little or no information shared about fulfillment prioritization or timelines. This caused county OEM staff and hospitals and other organizations in need of equipment and supplies considerable stress and frustration.

Throughout March and into April, GNYHA received many calls and e-mails from non-New York City facilities in desperate need of supplies. While GNYHA did its best to help with sourcing through the regular supply chain and with gaining details from county and State staff, we were often hamstrung by a lack of information. The New York State Hospital Capacity Coordination Center, established in early April, provided another avenue for hospitals to make resource requests, yet it was unclear how the regular county-State-Federal resource request process coordinated with this operation.

VENTILATORS AND VENT-RELATED ITEMS

With hospitalizations in New York City exceeding 2,000 the week of March 23, it became apparent that many COVID-19 patients required ventilators, and demand was exceeding supply. Hospitals and health systems across the region attempted to source ventilators on their own. Acuity and its parent company, Premier, also attempted to source and purchase ventilators and move them as quickly as possible to the New York region. However, there were not enough ventilators in the marketplace.

A small number of ventilators, approximately 700, were in the State stockpile, and the Federal SNS had an unknown quantity. No ventilators were in the City stockpile. With an initial batch of ventilators expected to arrive in New York City from the State stockpile, GNYHA collaborated with DOHMH, City Hall, and NYC Health + Hospitals to develop a fair and equitable allocation strategy for City hospitals. The formula was used through late March and April to distribute ventilators from the State stockpile, and soon after, the SNS. Hospitals also could make urgent requests. The formula was tweaked over time. The final formula comprised:

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- Proportionate share of total New York City beds – 35%
- Percent of New York City COVID-19 patients – 25%
- Percent of New York City COVID-19 intensive care unit (ICU) beds – 15%
- Percent of New York City COVID-19 patients in ICU beds/vents – 10%
- Hospital emergency department (ED) high-acuity volume (proxy for proportion of ED patients who will be admitted) – 15%

With ventilators in short supply, hospitals began implementing innovative solutions to help ICU patients breathe. This included splitting ventilators to enable two patients to use one machine, adapting ventilators used in operating room settings, and using other types of breathing machines such as Bilevel Positive Airway Pressure (BiPAP), and in some cases, reconfiguring the machines to act as invasive ventilators. As hospitals treated hundreds of very ill COVID-19 patients, they also quickly advanced their clinical knowledge and began employing other clinical approaches to delay intubating patients, such as aggressive proning and steroids and other therapies.

Ventilator Allocation outside NYC

With the relative success of New York City's ventilator allocation method, GNYHA pressed the State to use a similar allocation strategy. GNYHA's understanding is that the Governor's Office relied on the daily HERDS survey completed by all hospitals statewide and calls with hospital CEO's and staff to inform allocation decisions.

Increased Demand for Vent-Related Items

With thousands of ventilators in use across the region, demand for vent-related items soared. Ventilators arriving from State and Federal stockpiles often lacked parts or components and required hospitals to spend substantial resources to begin using them. With many very ill patients, hospitals were desperate to get these machines online as quickly as possible and began attempting to source the poles, tubing, and circuits needed to operate them. Some items were standard ventilator parts, and others had to be changed for each new patient. Acurity worked diligently to source these parts for hospitals. Many hospitals also deciphered how to use commercially available parts.

The massive increase in ventilator use among hospitals also put enormous pressure on hospital oxygen systems. Facilities and engineering staff needed to carefully monitor external oxygen tanks, and many facilities installed secondary external oxygen tanks to balance load needs.

Vent-Related Medications

One of the most troubling shortages was of medications used by patients on ventilators, including sedatives and paralytics. With so many patients on ventilators and for such extended periods of time, demand for these drugs skyrocketed. In late March, GNYHA and Acurity pharmacy staff modeled needs and compared them to anticipated available supply. Staff alerted distributors and key government staff of impending shortages. Acurity pharmacy staff also worked with individual hospital pharmacy managers to understand and stretch existing supplies, and with distributors to increase deliveries to the region based on demand models. GNYHA and Acurity staff also requested medication resources from the Federal SNS. Accessing the medications required enormous patience and dedication from GNYHA, Acurity, and key DOH and HHS Region II staff. The request-and-fulfillment process was opaque and ever-changing, taking more than two weeks from start to finish at the very height of the patient surge.

TESTING SUPPLIES

Diagnostic Testing Supply Shortages

Insufficient diagnostic testing capacity has plagued providers and all levels of government since the beginning of the pandemic. The problem continues today, as evidenced by significant limitations on the availability of timely and widespread testing. In the early weeks of the pandemic, the Centers for Disease Control and Prevention (CDC) initially took the position that it alone could evaluate specimens for COVID-19, which slowed access to testing. In addition, the initial test kits the CDC sent to public health laboratories generated false results, which some experts attributed to a contamination issue.

While the CDC eventually permitted public health laboratories and then hospital and commercial laboratories to evaluate specimens, their ability to run tests was significantly limited by shortages of collection kit materials (swabs and viral transport media), testing materials, and equipment (reagents and testing platforms).

Thus, during the pandemic's initial days, both public health laboratories and many major hospitals and health systems could run only 50-200 tests per day. And, to the extent that specimens were sent to commercial laboratories, the turnaround time for obtaining results severely limited the specimen's operational use. Given the limited testing capacity, public health authorities developed strict protocols for testing to ensure that only those most in need, e.g., severely ill individuals, received the few tests available.

Current Testing Limitations

As of this summer, the testing capacity in New York State and nationwide has grown significantly, with New York reporting 45,000 to 80,000 test results daily. However, there has been a corresponding increased demand for testing, which when coupled with the continuing shortages of supplies has resulted in significant limitations on providers' ability to perform as many tests as needed and has caused unreasonably long delays in obtaining results.

The increased demands for testing include mandates to test employees of nursing homes and adult care facilities weekly, essential workers, and vulnerable communities and populations, and implement broad-based test-and-trace programs. Also, as schools consider reopening, there likely will be huge demand for testing students and teachers. Nationally, the surge in COVID-19 cases in many other areas of the country has resulted in exponential growth in the need for testing, which has led to long lines for testing and unreasonably long turnaround times for results.

On the supply side, hospital and health system laboratories in New York State continue to experience shortages of collection kit materials and the reagents needed to run the tests, requiring hospitals to rotate the use of testing platforms based on the reagents available. They also have reported shortages in the personnel needed to run the tests. Consequently, many hospitals have difficulty running, in timely fashion, the tests needed by their emergency department patients, inpatients, and patients awaiting medical or surgical procedures. Hospitals also are forced to send many specimens such as those associated with regular testing of nursing home workers to commercial laboratories, which are experiencing long delays in reporting results—which in turn undermines the value of testing.

Moving Forward

Hospital and health care laboratories continue to work with their suppliers and group purchasing organizations to obtain needed supplies and rotate their use of testing platforms based on the reagents available. They also continue to prioritize testing for their patients and vulnerable communities, but recognize that testing, tracing, and isolation programs are

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important components of minimizing infection. Pooling specimens to make the best possible use of reagents is under discussion.

Large commercial laboratories have acknowledged being overwhelmed by the soaring demand for tests and report that they are focusing on increasing their daily testing capacity by adding additional platforms and working with their suppliers to obtain more reagents. They also urge prioritization of testing to ensure that those in need will get them in a timely manner.

Finally, efforts have been undertaken locally to produce collection kit supplies (e.g., swabs and viral transport media) through various means to minimize test kit shortages. There also are discussions about establishing a laboratory in the New York region to reduce dependency on outside laboratories. All efforts are important to the ability to diagnose, treat, trace, and minimize the transmission of the virus.

RECOMMENDATIONS

Based on supply chain experiences during the COVID-19 patient surge, GNYHA puts forth several recommendations for consideration by public and private sector stakeholders.

Near-Term Recommendations

- Convene a health care supply chain taskforce that includes representatives of involved stakeholders (representatives from the Governor's Office, DOH, DHSES, the New York City Mayor's Office, NYCEM, DOHMH, GNYHA, Acurity/Nexera, and Nassau, Suffolk, and Westchester county OEMs). Use this entity to carry out the next two recommendations. Bring the group together at least twice a month over the next several months and at least weekly during anticipated future waves to monitor health care supply chain activity and inform government decision-making.
- Develop an agreed-upon set of metrics to be used by all involved stakeholders for supply chain monitoring and allocation decisions. As part of this process, clarify how various data sources will be used. (Please see [Data Collection Lessons Learned document](#) for more information.)
- Clarify and document the resource request process, from initial request to fulfillment, including allocation of scarce resources. Communicate this information with all stakeholders through written documentation and informational webinars.
- Work with health care supply chain experts to develop and manage government stockpiles at the City, county, and State level to reduce competition for still scarce resources and ensure the use of stockpile products for health care needs. Patient surges happening in other parts of the country will complicate this effort.

Intermediate-Term Recommendations

- Government agencies at all levels should hire individuals with deep health care supply knowledge to inform pre-paredness and response efforts for all types of emergencies
- Government agencies and political leaders at all levels should ensure ongoing fiscal support for the maintenance of health care emergency stockpiles, including the funds necessary to maintain and rotate stockpile inventory, and continuously reassess inventory items based on emerging hazards
- New York State should convene a Pandemic Clinical Care Advisory Group to assess critical care equipment and

Lessons Learned: PPE and Scarce Patient Care Equipment and Supplies

resource needs (e.g., ventilators, BiPAP and Continuous Renal Replacement Therapy machines, pharmaceuticals required for ventilator patients, ventilator parts, cross-trained staff) and to inform procurement decisions. This effort should be coordinated with City and county entities across the State.

- New York State should establish a Health Care Solution Innovation and Manufacturing Center to operate under the auspices of the State Economic Development Corporation. The Innovation Center would identify and promote the development and manufacture of health care supplies, products, generic pharmaceuticals, services, etc., to reduce dependence on foreign countries for these items, facilitate economic development in the State, and enable New York to become an exporter of health care supply chain-related products and services elsewhere in the country and across the globe. City and county entities across the State should coordinate this effort.
- New York State should convene an expert advisory panel to make recommendations on COVID-19-related testing (protocols for health care providers/the general public, supplies, and equipment)
- New York State should establish a permanent Office of Pandemic Response (OPR) within DOH with established ties to relevant experts in other agencies and organizations. OPR should be staffed by experts in global pandemics who would be responsible for a) assimilating the findings and predictions of global experts, including economists and consultants, about COVID-19 and other pandemics; and b) coordinating all matters about future pandemic outbreaks statewide.

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COVID-19 WAVE 2 PATIENT LOAD REDUCTION AND LOAD BALANCING STRATEGIES (7.16.20)

Working draft prepared by GNYHA in collaboration with member hospitals

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Purpose: Develop and formalize processes that support collaborative patient load balancing across hospitals, with the goal of reducing patient surge in any particular hospital or group of hospitals.

Activation of these strategies: The goal will be to tie activation of these strategies to broader surge indicators used by government entities, with input from the hospital/health care community.

Notes:

- A foundation for these strategies will be the activation of waivers that provide flexibility for patient transfers.
- Throughout this document, references are made to GNYHA's Sit Stat 2.0 system. This is a web-based situational awareness platform that is used to collect and display key data points for use by hospitals, health systems and agency response partners. Currently 115 hospitals across New York State participate in the program.

STRATEGY 1: REDIRECT EMS TRANSPORTS AWAY FROM HOSPITALS WITH ELEVATED ED, INPATIENT VOLUME

Create a three-level self-reported qualitative measure of hospital capacity: 1) normal level (**green**), 2) elevated surge (**yellow**), and 3) significant surge (**red**), and program this indicator into GNYHA's Sit Stat 2.0 system. The measure will be defined in the system as follows:

Compared to a regular day, this status best describes your hospital capacity—normal level, elevated surge, significant surge. This is a qualitative measure and should account for emergency department (ED) volume including boarding, inpatient volume, all staffed available beds, and planned transfers and discharges. This measure will be used by emergency medical services (EMS) to inform patient transport decisions.

Hospitals will be asked to **update this measure each morning in GNYHA's Sit Stat 2.0 system**, and then throughout the day when changes in status occur. Hospitals will determine what role/department should provide this information.

EMS agencies via access to GNYHA's Sit Stat system will monitor this indicator, modifying destination decisions to the extent possible as described below:

- Hospitals flagged **yellow** (elevated surge): [TBD – in discussion with key stakeholders]
- Hospitals flagged **red** (significant surge): [TBD – in discussion with key stakeholders]

STRATEGY 2: FORMALIZE AND SUPPORT PROCESSES TO FACILITATE PATIENT TRANSFERS

Throughout the spring COVID-19 patient surge, daily, large health systems transported patients within their own hospital network and to alternate care sites, and accepted transfers from independent hospitals. The structures and processes below



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are designed to facilitate these processes and create regional indicators used to activate additional transport resources and use of alternate care sites.

Key Assumptions

- Independent hospitals transfer patients out, relying to the greatest extent possible, on established transfer relationships and processes.
- All health systems actively load balance patients within their own health systems, using existing resources, structures, and processes.

Preparedness Phase

GNYHA will:

- Conduct outreach to all independent hospitals in the downstate region, and asks them to indicate the primary and secondary health systems they would use for patient transfers. Each hospital will also be asked to designate a tertiary health system that would be utilized if the first two are unable to meet their needs. This information will be captured and visible in GNYHA's Sit Stat 2.0 system.
- Conduct outreach to all health systems in the region (NY, NJ, CT) and ensure that transfer center and command center information is included in GNYHA's Sit Stat 2.0 system (see sample image below).
- Bring together health system transfer center leaders to share best practices developed during the initial COVID patient surge, and center processes and practices to be used during future events.

Health Systems	Health System Transfer Center Phone #
Albany Medical Center	518-262-4661
Atlantic Health System	877-441-4450
Hackensack Meridian Health	732-776-3486
 Montefiore Health System, Inc.	718-920-2800
 Mount Sinai Health System	646-605-5905 or 1-800-TO-SINAI
 New York-Presbyterian Hospital	800-697-7828
 Northwell Health	212-434-3216
 NYC Health + Hospitals	844-442-2337 or transport@nychhc.org
 NYU Langone Health	212-263-7014
Stony Brook Medicine	631-444-1911

Response Phase

- Independent hospitals request transfers as needed to meet patient needs and alleviate pressure on their facility.
- Health systems actively load balance among their system facilities as needed.
- System occupancy information (calculated using NYS Health Emergency Response Data System (HERDS) data) is made visible in Sit Stat 2.0 to provide situational awareness to hospitals, health systems, and agency partners. For large health systems with geographic diversity, GNYHA will consider sub-system reporting.
 - When more than half of involved health systems have an occupancy rate of 80% or higher, additional transport resources and the government-supported alternate care sites (see below) will be activated.

STRATEGY 3: FORMALIZE AND SUPPORT PATIENT DISCHARGE OPTIONS FOR PATIENTS THAT NEED CONTINUED CARE

During a patient surge, it is important that hospitals can safely discharge patients who can be cared for in an alternate setting to free up existing capacity. To this end, GNYHA and member hospitals will pursue the concepts below:

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Nursing Facilities with Infectious Disease Specialty Units: A number of nursing home facilities have been identified that can provide high-quality care to discharged, recovering COVID patients in separate units or buildings. These facilities meet stringent criteria related to infection control and prevention practices and level of care provided and have collaborative relationships with hospital partners.

Note: Executive Order (EO) 202.30, which prohibits discharge of hospitalized patients to a nursing home without first obtaining a negative COVID diagnostic test, is in effect until August 8. GNYHA is engaging with the Governor's Office and State Department of Health about application of this EO to the facilities described above.

- **Preparedness Phase**
 - GNYHA, in collaboration with long term care partners, will collect key information for each of these facilities and develop a dedicated view in Sit Stat 2.0. This view—similar to the COVID-19 Surge Operations View below—will be available to hospital and health system transfer and command centers to enable use of these facilities.
 - GNYHA and long term care partners will set up a system so that daily updates including bed availability can be provided and made visible in the Sit Stat 2.0 system.
- **Response Phase**
 - Once activated, each participating nursing facility will provide bed availability updates each day by 8:00 a.m. Understanding that many nursing homes have preferential relationships with certain hospitals, facilities would also indicate if they were open or closed to transfers from across the region on a particular day.

Government-Supported Alternate Care Sites: During a significant patient surge, government-supported alternate care sites will play a critical role. The lessons learned during the initial patient surge should drive collaborative planning among government and health care stakeholders.

- **Preparedness Phase**
 - Work with City, county, and State officials to understand and inform their plans for standing up alternate care sites including location, level of care provided, capabilities, staffing, personal protective equipment and supplies, and from where transfers will be accepted. *Please see the Appendix below for recommendations from GNYHA and its members.*
 - Build out sites in existing COVID-19 Surge Operations View in Sit Stat 2.0 and ensure staff are designated and trained to provide bed availability updates.
- **Response Phase**
 - Once activated, each alternate care site will be asked to provide bed availability updates each day by 8:00 a.m.
 - Each site will monitor transfer processes and provide updates to hospitals as needed.

COVID-19 Surge Operations												
Hours of Operation: 7am-4pm												
Call Center Phone #: 212-542-1700												
Alternate Care Sites	Borough	Operational Status	CoVID	Staffed Capacity	Census - Total	Census - ICU	Availability - Total	Availability - ICU	Confirmed CoVID Positive	Today's Anticipated Discharges	Comment	Last Update
Javits New York Medical Station	Manhattan	Closed	CoVID+ Only	0	0	0	0	0	0	0		12 May 2020 10:48
USNS Comfort	Manhattan	Closed	Any CoVID Status	0	0	0	0	0	0	0		12 May 2020 10:48
Summary	N/A	N/A	N/A	0	0	0	0	0	0	0		
Hospital-Operated Sites												
Hospital-Operated Sites	Borough	Operational Status	CoVID	Staffed Capacity	Census - Total	Census - ICU	Availability - Total	Availability - ICU	Confirmed CoVID Positive	Today's Anticipated Discharges	Comment	Last Update
Maimonides - Boro Park	Brooklyn	Opening Pending	Non-CoVID	0	0	0	0	0	0	0		12 May 2020 10:48
Maimonides - Crown Heights	Brooklyn	Partially Operational	CoVID+	50	3	0	47	0	1	2		12 May 2020 08:54
Mount Sinai - Samaritan's Purse	Manhattan	Closed	CoVID+	0	0	0	0	0	0	0		12 May 2020 10:48
NYC H+H - Billie Jean King Tennis Center	Queens	Partially Operational	CoVID+	100	10	1	90	19	9	3	121 med/surg + 20 ICU	07 May 2020 06:35
NYP - Ryan Larkin Field Hospital	Manhattan	Partially Operational	CoVID+	73	17	0	56	0	17	0		12 May 2020 10:48
Summary	N/A	N/A	N/A	223	30	1	193	19	27	5		

APPENDIX: GNYHA RECOMMENDATIONS RELATED TO GOVERNMENT-SUPPORTED ALTERNATE CARE SITES

Government-supported alternate care sites (ACS) should be managed by a local health system team or a contracted health care administration team knowledgeable of the area.

Hospital administrative and operational experience, as well as knowledge of the local/regional health care eco-system, are critical to the success of an ACS. Any planned ACSs should have this relationship established in advance and the selected team should be included in planning.

Design ACSs to support moderate-acuity patients in the convalescent phase of illness.

Given the long length of stay of many COVID-19 patients, ACSs are well-suited to care for moderate-acuity patients in the convalescent phase of illness. Focusing on this population allows for maximum inpatient decanting and greater hospital throughput to care for incoming patients. Working with the administrative team, the ACS must ensure that it can meet the full clinical needs of such patients, including the small number that may decompensate, as well as discharge planning needs.

Create a centralized admissions process for all government-supported ACSs, educate all hospitals and health systems on the process, and allow transfers from all hospitals in the region.

All government-supported ACSs should be available to all hospitals and health systems across the region. Admissions should be arranged through a single centralized admissions hub with the transfer process as streamlined as possible. The admissions process should be documented in detail and broadly disseminated.

Further develop resources and systems to aid with patient identification and transfer.

During the initial COVID-19 patient surge in early 2020, GNYHA developed an Alternate Care Site View within its' Sit Stat 2.0 Situational Awareness system that housed key information about each ACS. During future waves this resource can be used by hospital command centers and health system transfer centers in advance of contacting the admissions hub. Successful models developed during the first wave including identifying patients through electronic medical record queries and sending clinical teams to assist with the transfer process, should be further developed and utilized.

Open government-supported ACSs in a sequential manner based on pre-developed triggers.

Government-supported ACSs should serve as a safety net to the health care system and be opened once regional indicators of infection and occupancy demonstrate the need. ACSs should be opened in a sequential manner to reduce stressors on staffing and supply chains.

Develop ACS staffing models that do not directly undermine health care staffing models.

During a patient surge health care staff are the most valuable commodity. Hospitals and health systems will utilize multiple staffing strategies including redeployment of existing staff, per diem staff, staffing agencies, and volunteer portals to meet their own needs. It is critical that government-supported ACSs develop staffing models that do not draw from these same sources.

ECONOMIC ISSUES THAT COULD AFFECT THE HOSPITAL INDUSTRY'S RESPONSE TO A SECOND SURGE OF COVID-19 CASES

KENNETH E. RASKE, PRESIDENT AND CEO, GREATER NEW YORK HOSPITAL ASSOCIATION

This paper describes COVID-19's fiscal impact on hospitals in the New York City area in three stages:

- Stage 1 was the period from January through June in which hospitals had to rapidly expand bed capacity to accommodate the surge of COVID-19 cases.
- Stage 2 is the current period during which COVID-19 admissions are continuing at a manageable level, but hospitals are facing a growing financial crisis.
- Stage 3 could be the point at which either the pandemic will end because the population is vaccinated, or a second surge of COVID-19 cases requires hospitals to once again expand bed capacity.

STAGE 1: THE COVID-19 SURGE

The COVID-19 global pandemic started in Wuhan, China and spread west to the United States and east to Europe in January. Washington State had the first case from China on January 21, 2020, and New York City, the largest gateway for travelers through Europe, had its first case on March 1 and 500 cases by March 15. During the last two weeks of March, hospitals in the New York City area canceled all elective procedures to make room for COVID patients, and New York State Governor Andrew Cuomo shut down all non-essential public activity to slow the rate of viral transmission. He also required all hospitals to expand their bed capacity by at least 50%, and his administration and the U.S. Department of Health and Human Services (HHS) waived regulations to permit hospitals to ramp up quickly.

In response, New York's downstate hospitals undertook the largest mobilization of health care resources in the nation's history and successfully weathered the surge, but their efforts had severe economic consequences in the form of lost revenues and higher COVID-19 expenses.

Decreased Hospital Revenue

Because payments for complex surgeries are much higher than payments for treating COVID-19 patients, canceling all elective procedures was a massive blow to hospitals. In fact, payments for commercially insured complex surgeries (about 8% of all cases¹) generate most of the operating surpluses for tertiary hospitals. Hospitals also lost money during Stage 1 because Medicare and commercial payers did not reimburse them for the convalescent care they provided for long-term ventilator and other COVID patients with no discharge placement options. As a result, hospitals in the New York City area lost 38% of their monthly revenue on average.²

In addition to their COVID-19-related revenue losses, hospitals were already experiencing across-the-board (1.5%) and targeted Medicaid cuts that were made to help close the State's pre-pandemic budget deficit.

Increased Hospital Expenses

To expand bed capacity, hospitals converted operating rooms, emergency rooms, lobbies, conference rooms, cafeterias, and other space into COVID-19 medical and intensive care units. Some hospitals even set up nearby field hospitals. But that

1. GNYHA analysis of 2018 data from the Statewide Planning and Research Cooperative System (SPARCS).

2. Survey of the fiscal impact of the COVID-19 surge on New York hospitals by the Healthcare Association of New York State (HANYS) and GNYHA.



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was easy compared to finding and training personnel to staff the new beds; finding personal protective equipment (PPE) for all hospital staff; procuring ventilators, dialysis machines, and other equipment; and procuring diagnostic and antibody testing materials, sedatives and other drugs, and oxygen and other supplies. The staff, equipment, drugs, and supplies were in extremely short supply and commanded grossly inflated prices. The quantities needed of some supplies during the crisis, like PPE, dwarfed the numbers needed under normal circumstances. Between the increased quantities and prices, hospitals' monthly operating expenses increased by 23% on average.³

Hospital Losses

In Stage 1, hospitals nationwide lost revenue from canceling elective procedures and preparing for a potential influx of COVID-19 patients. Hospitals in areas without many COVID-19 patients, however, were able to furlough staff and otherwise cut operating costs to stem their losses. But hospitals in the New York City area lost revenue while simultaneously increasing expenses. As a result, their operating margin plunged from an already tenuous baseline average surplus of 1% to a Stage 1 COVID-19 deficit of minus 50%.⁴

Federal Grants

The only way the hospitals got through Stage 1 was with Federal financial help. First, they accessed Medicare "advance payments." Then Congress delivered a \$175 billion Provider Relief Fund. This was done through the Coronavirus Aid, Relief, and Economic Security (CARES) Act (COVID 3), and the Paycheck Protection Program and Health Care Enhancement Act (COVID 3.5).⁵ The New York Congressional delegation did outstanding work to help Speaker Nancy Pelosi shape those bills in the House of Representatives, and Senate Democratic Leader Chuck Schumer's leadership ensured passage in the Senate.

The Provider Relief Fund is administered through grants. HHS has distributed \$120 billion so far, but has not yet announced how it will distribute the remaining \$55 billion. Of the distributions to date, \$50 billion was given in April to all providers in all states based on their proportionate share of national patient service revenue, regardless of the prevalence of COVID-19 in their area. The other \$70 billion was targeted to certain providers as follows:

- \$10 billion to rural providers on May 6
- \$12 billion to hospitals in COVID-19 "hot spots" on May 7 ("Round One")
- \$5 billion to nursing homes on May 22
- \$500 million to tribal providers on May 29
- \$15 billion to Medicaid-only providers on June 9
- \$10 billion to safety net hospitals on June 9
- \$4 billion to additional safety net and rural hospitals on July 1
- \$8.5 billion in further funding to hospitals in COVID-19 "hot spots" on July 17 ("Round Two")
- \$5 billion in further funding to nursing homes on August 7

The May 7 "hot spot" funding was based on COVID-19 hospital admissions from January 1–April 10, 2020. Funding was limited to hospitals with at least 100 admissions during that time, and the amount allocated per admission was approximately \$77,000. In this first round, which represented, in effect, one month of COVID-19 admissions, New York's hospitals received approximately \$5 billion, or 41% of the \$12 billion allocated nationwide, appropriately recognizing that New York was the worldwide epicenter of COVID-19.

3. Ibid.

4. Ibid.

5. Four COVID-19 relief bills have been enacted so far:

1. [The Coronavirus Preparedness and Response Supplemental Appropriations Act, enacted March 4](#)
2. [The Families First Coronavirus Response Act, enacted March 18](#)
3. [Coronavirus Aid, Relief, and Economic Security Act, enacted March 27](#)
- 3.5. [The Paycheck Protection Program and Health Care Enhancement Act, enacted April 24](#)

The second \$8.5 billion allocated for “hot spots” announced on July 17, however, allocated only 8% of the funding to New York hospitals. In this round, hospitals were required to report COVID-19 admissions through June 10. HHS expanded the eligibility for funding to hospitals with 161 admissions or more, as well as those with a high proportion of COVID-19 admissions relative to their bed size—three months into the pandemic—which increased the number of hospitals eligible for funding from roughly 400 in the first round to 1,000 in the second. This combined with less funding—\$8.5 billion compared to \$12 billion in the first round—diluted the payment per admission to \$50,000. In addition, payment amounts were offset by the amount hospitals received in the first round.

This second round of funding completely shortchanged New York hospitals. During much of the period from April 11–June 10, New York continued to be the epicenter of COVID-19, reaching peak hospitalizations on April 12 and remaining at or near the peak for several weeks before starting a very slow decline. Providing just 8% of the Round Two funding to New York hospitals completely ignores this reality and puts New York hospitals at severe financial risk.

As New York’s downstate hospitals move into the next stage of the COVID-19 pandemic, they face new pressures on their financial condition. It is therefore crucial that the ongoing Federal assistance comes as close as possible to fully restoring their Stage 1 losses, and that future rounds of funding from the Provider Relief Fund make up for the inequities created by the allocation formula used in Round Two of the “hot spot” funding.

STAGE 2: THE ONGOING COVID-19 THREATS TO HOSPITAL FINANCING

Hospitals in the New York City area are observing two disturbing economic trends as they begin the process of reopening for non-COVID-19 patients: a decrease in hospital utilization and an unfavorable shift in their payer mix. They are also concerned about potential revenue losses from the impact of the State’s ballooning budget deficit on the Medicaid program. If these trends continue and the potential losses come to pass, hospitals will have to realign their operating costs with their lower level of patient service revenue.

Lost Revenue from Decreased Hospital Utilization

During Stage 1, emergency room visits dropped by 50%, presumably because the shutdown led to fewer accidents and injuries, as well as less transmission of non-COVID-19 communicable diseases. But an additional factor was at play. For the period of March 11 to May 2, 2020, the New York City Department of Health and Mental Hygiene reported a statistically meaningful year-over-year increase in deaths from serious conditions such as heart attacks and strokes, indicating that many people with urgent medical needs stayed away from the hospital during the surge over concerns about acquiring COVID-19 in the hospital.

With the worst of the COVID-19 surge over, the return of hospital business is slow. Hospitals have noted an uptick in off-site ambulatory surgery, but the return of on-campus services has been slower. Four monthly GNYHA polls, the first in early May and the last in early August, have shown troubling signs for consumer demand and attitudes about getting care at a hospital. While the numbers improved from May to August, New Yorkers remain concerned about COVID-19 transmission in the hospital and are reluctant to visit a hospital emergency room. The latter consequence is impacting hospital revenue because many community hospitals get half or more of their inpatient admissions through the emergency room. Further, even though the volume of elective surgeries has picked up, it has not rebounded for international and other visiting self-pay patients, who, in addition to commercially insured patients, are the hospitals’ other source of operating surpluses.

The critical question is how long this fear will last. GNYHA began an advertising campaign to let the public know that with the strictest infection control practices in place and far fewer COVID-19 patients, the risk of contracting COVID-19 in the hospital is much less than the risk of not attending to chronic conditions, or signs and symptoms of potentially serious acute conditions. But even under the best scenario, hospitals expect less hospital utilization for the foreseeable future.

Lost Revenue from an Unfavorable Shift in Payer Mix

A July 7, front-page *New York Times* story (“Calamity Looms in New York City Over Job Losses”) said, “The sudden shut-down of the city nearly four months ago threw nearly a million residents out of work and threatened the survival of many of their employers.”

Indeed, massive unemployment is causing a shift from employer-sponsored insurance (ESI) to government-sponsored insurance. According to data from the U.S. Census Bureau and estimates from the Kaiser Family Foundation (KFF), 15% of New York’s population with ESI—about 1.5 million people—lost their insurance when their families lost jobs due to the COVID-19 shutdown. KFF further estimated that, over the course of 2020, 76% of those 1.5 million people will go on Medicaid, 18% will obtain subsidized coverage on the New York State exchange, and the remaining 7% will become uninsured.

Assuming those proportions correspond with the hospital patient population, a growing share of patients will lose commercial insurance, which generates most of the hospitals’ surpluses, and go on Medicaid, which generates most of the hospitals’ losses.

Potential Lost Revenue from State Cuts to Medicaid Program Spending

The COVID-19 pandemic decimated New York State tax receipts and created a budget deficit of \$13.3 billion and counting for the current State fiscal year. Unless the State receives substantial additional Federal help in a fourth COVID-19 relief bill, Governor Cuomo may take administrative actions to save \$5.1 billion, and cut public programs and services by \$8.2 billion. If that happens, deep Medicaid cuts would be unavoidable, which would likely force some hospitals to curtail services.

Medicaid payments currently cover only 75% of hospital costs,⁶ a deficiency that generates huge hospital losses. Safety net hospitals, whose patients are mostly poor and uninsured, currently make up those losses with almost \$800 million in direct subsidies from the State. But if the \$13.3 billion budget gap persists, it is doubtful that the State could maintain the current subsidy level. Hospitals with a meaningful share of commercially insured patients currently make up their Medicaid losses by negotiating higher rates with commercial insurers, but as previously noted, pandemic-induced unemployment is shrinking the proportion of commercially insured patients.

One thing seems certain—there will be dire consequences for hospitals and their patients if Congress does not deliver sufficient funding for states and localities.

The coming months will be critical for hospitals. The Economic Recovery Omnibus Emergency Solution (HEROES) Act, which passed the House of Representatives on May 15, includes \$500 billion for states and \$375 billion for localities. Unfortunately, talks between the House, Senate, and White House appear to be at a standstill. Depending on what happens in Washington, DC, hospitals should soon have a better sense of the magnitude of State Medicaid cuts that might be part of a second gap closing program for the current fiscal year.

Moving further into Stage 2, even if Congress provides enough COVID-19 relief to New York State to reduce the magnitude of cuts needed to close the State’s budget gap, its tax receipts will remain anemic due to the pandemic-induced recession and protracted unemployment. It is therefore possible that the State would make another round of major cuts in late fall or early winter to help close huge budget gaps this year and in future years.

Realigning Hospital Costs

Based on the above Stage 2 outlook, it is reasonable for hospitals to expect significant revenue losses in the medium term from fewer emergency room visits and admissions, lower demand for specialty services, and fewer patients with commercial insurance. Combined with the uncertainty about Federal relief for states and localities, it is possible that Medicaid cuts could exacerbate these losses, in addition to losses not recouped from Stage 1.

6. Source: GNYHA analysis of hospital data reported on Exhibit 46 of the 2018 Institutional Cost Reports (ICRs).

This grim reality will require hospitals to realign their costs, which will be an extremely difficult process, as follows:

1. It may involve painful decisions for patients and communities because it will be particularly hard to preserve current service levels for clinical services that require cross-subsidization, such as obstetrics, mental health, addiction, and other services for which Medicaid is the principal funding source.
2. With labor representing 63% of hospital expenditures in the New York City area,⁷ the realignment will also require painful staffing decisions. Hospitals will try to reduce staff as much as possible through attrition, and they will rely on their longtime collaboration with organized labor to maintain both the solvency of their operations and the integrity of their workforce. This problem is not unique to New York. Numerous press reports from other states have documented layoffs and furloughs following the COVID-19 surge. New York will be different, though, because of the historic track record of working with labor for the common good.

STAGE 3: A POTENTIAL SECOND SURGE

If the population can be vaccinated against COVID-19 without a second surge in COVID-19 admissions, then Stage 2 can end with an opportunity for the hospitals to strategically rebuild their cost structures in accordance with the “new normal.” This could include the permanent use of expanded telehealth services and a smaller hospital footprint.

But with COVID-19 cases soaring across the south and southwest, there is growing risk of another surge of cases in the northeast, including the New York City area, especially if the development and widespread dissemination of a vaccine is delayed. If that happens, the hospitals would face the same dual blow they experienced in Stage 1—the need to rapidly increase spending with inadequate resources. The obvious problem in this scenario is that the hospitals’ economic resilience would have been severely damaged by the forces occurring in Stage 2. During the spring 2020 surge, the most difficult challenge was finding and training staff. With a smaller workforce going into a second surge, this challenge would be exponentially harder, if not impossible.

Conclusion

The unknowns of Stage 3 are many, including the magnitude and duration of a possible second surge. But even without a second surge, major additional Federal assistance will be needed to mitigate the protracted fiscal impact of less hospital utilization, a changing payer mix, and looming State Medicaid cuts. GNYHA will advocate for Congressional action to replenish the Provider Relief Fund, the cancellation of hospitals’ obligation to repay the high-interest Medicare advances they received at the start of the pandemic, and Federal funding for states and localities.

In addition, a second surge could lead to a second shutdown of non-essential business activity, which would further drain the State’s resources and its ability to support the Medicaid program and safety net hospitals. With or without potential Federal assistance, the State should consider special bond issues, backed by its good faith and credit, to preserve the essential hospital infrastructure.

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7. Source: GNYHA analysis of data reported on Exhibits 11 and 12 of the 2018 ICRs.