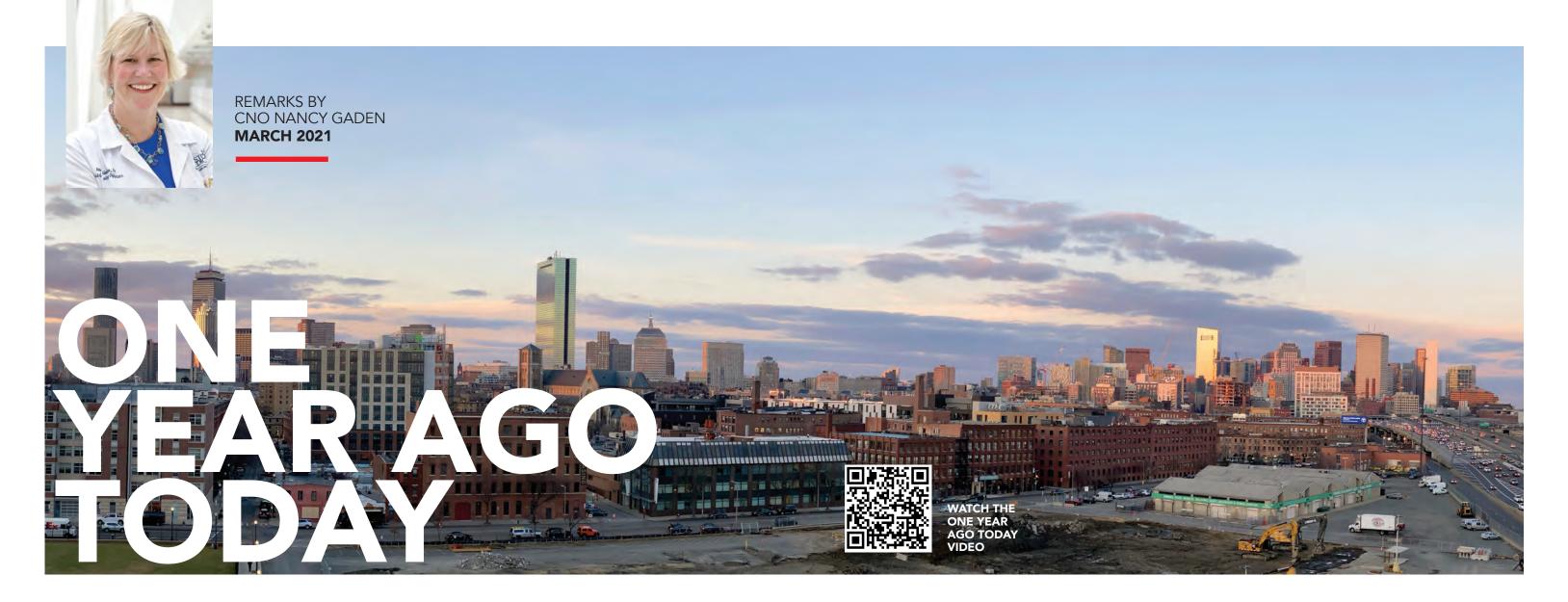


#### **DEPARTMENT OF NURSING**

2020 ANNUAL REPORT COVID-19 EDITION







A year ago, Covid came into our lives—and the lyrics from Rent have spoken to me as I thought about this year. "525,600 minutes, 525,000 moments so dear. 525,600 minutes—how do you measure, measure a year? In daylights, in sunsets, in midnights, in cups of coffee. In inches, in miles, in laughter, in strife."

Last March, Governor Baker had declared a State of Emergency for MA—and across the state and at BMC we were planning for the worst, but hoping it wouldn't be so bad. We set up an ED tent to screen all arrivals. We began to create plans to increase our supply of ventilators, watching what had happened in other parts of the world, like China and Italy.

On March 13th, we admitted our first patient with rule out Covid to 7W. I have pictures of that day—I took them of the nurse and physician who were admitting the first patient—and what is striking is that no one has masks on at the nurse's station—or anywhere else as we met to continue to plan.

A year ago today we saw 105 patients in the ED that we sent Covid specimens on. We stopped doing elective surgery. We went live with employee testing. We made plans for increased bed capacity, and prayed we would not need it. One year ago today we had 52 pending patients in the hospital. We had no one confirmed yet as the testing took so long to come back.

One year ago we had activated our incident command system, and had created plans for PPE, and patient testing, for staffing, communication, and clinical guidance following the CDC and DPH. We made a plan for testing and hoteling employees, virtual appointments for ambulatory patients started, and we were struggling to get enough PPE. We had increased donning and doffing education and had worked through our surge plan—what spaces we would open if we ran out of beds. We made changes in EPIC to be able to quickly see where positive patients were so we didn't cohort with negative patients. Testing took days to come back from labs halfway across the country. We had started calling all of our ambulatory patients and screening for symptoms like fever, dry cough, shortness of breath and travel history to Mainland China. We changed how employees and patients could enter the buildings, and stopped letting in visitors and volunteers. Our lab started to work with the BU labs to be able to do Covid testing here at BMC. We consolidated our ambulatory clinics.

We were figuring out how to supply scrubs to our Covid patient facing staff. Employees had many questions, and Working Well was overwhelmed as we started to have employees who were exposed in the community and were also coming down with Covid. We began to worry about our supply of PPE and reached out in every direction to secure what we needed for our employees.

One year ago we started doing daily videos. And the communications team began sending daily Covid-19 updates. By April 3rd, we had 157 Covid positive patients in the hospital and by the middle of April we had filled every room on every floor with a Covid positive patient, and had opened 90 additional beds in the ambulatory areas to care for non-covid patients.

"In 525,600 minutes—how do you measure a year in the life?"

I want to start with our employees. And begin by sending blessings to our colleagues who have suffered with Covid this year. Yes, many of us did get Covid and had little or no symptoms, but this devastating disease took the lives of a few of our treasured BMC family, and many of our colleagues suffered —and continue to suffer greatly. We have work-friends in every department who have lost loved ones to this cruel pandemic. We have colleagues who have had to say goodbye to family members from afar because they couldn't travel. Across the board, we have not been able to be there for those we love.

But you came to BMC day in and day out and cared for our patients. Our nurses and doctors, nursing assistants, and respiratory therapists saved the lives of our patients and held their hands. You donned and doffed and donned again and again. You worried about your own health—but pushed through and cared for others. You stripped off your clothes at the door of your homes, you alcohol foamed your hands a million times.

You couldn't do the things that you love—the things that help you cope, the gym, going out with your friends, travel. But you came to BMC day in and day out and cared for our patients. Through it all—through all of the challenge in the hardest year most of us have ever had, you made it to today.

And you supported each other. You smiled under your masks, you consoled each other when you cried. You held each other up—you held yourselves up. Sometimes you asked for help, and sometimes you didn't. You kept your pain inside you. For 525,600 minutes we have had Covid in our every thought and in our every breath.

The song goes on to say "In truths that she learned, or in times that he cried. In bridges he burned, or the way that she died."

This is a year we will never forget. As a community we have come together in ways we never thought possible. Every department was part of our pulling through this time. Every employee played a role—and we saw the contributions of individuals and departments every day. We have learned so much—in so many ways. We have been a team. We have been family. A huge BMC family.

So the song ends saying "It's time now to sing out, though the story never ends—let's celebrate—remember a year in the life of friends. Measure in love. Seasons of love! Seasons of love."

















#### **OVERVIEW**



Throughout this report, you will find stories and poems by nurses and for nurses. The sharing of deep experiences of loss and triumph and the uniquely nursing insights. The wonderful spirit of teamwork, support, collaboration, and friendship—with BMC pride will shine. Their words remind us—we are better together.

THE COVID-19 PANDEMIC HAS BEEN UNLIKE ANYTHING WE HAVE SEEN IN HEALTHCARE. THE PHYSICAL AND EMOTIONAL TOLL IS IMPOSSIBLE TO QUANTIFY. THERE WERE DAILY COVID PLANNING MEETINGS, EMPLOYEE CONCERNS, TESTING, PPE INVENTORY ANALYZED BY INCIDENT COMMAND, BEDS PREPARED FOR THE SURGE, STAFF RE-DEPLOYED TO OTHER AREAS OF THE HOSPITAL—ALL IN RESPONSE TO THE PANDEMIC. NOT ONLY DID THE STAFF WORRY ABOUT THEMSELVES, THEY WORRIED ABOUT THE PATIENTS IN THEIR CARE. TEAMWORK WAS THE SILVER LINING THEY EMBRACED.

This body of work documents and highlights the profound care the nurses, physicians, and staff at Boston Medical Center provided to meet the pandemic challenges head-on. It not only speaks to the strength of this hospital in the city of Boston but also the deep love and respect they have for the patients and our community.

#### PHASE C AT BMC

On March 2, 2020, BMC Emergency
Management declared a Phase C at the
hospital. Phase C is an institution-wide
emergency response that impacts normal
operations and requires mobilization of
hospital resources including the activation
of the Hospital Incident Command System,
a structure to coordinate all elements of
the emergency response.



#### COVID-19 SCREENING AND TESTING

As cases started to be confirmed in Massachusetts, Boston Medical Center developed a patient screening tool in Epic which included travel to and from countries considered high risk and those experiencing flu-like symptoms.

At that time, Covid-19 testing (through a nasal pharyngeal swab) required authorization by the Massachusetts Department of Public Health and results would take several days from outside labs, some samples sent halfway across the country.

The Pathology and Laboratory team and volunteer researchers from the Center for Regenerative Medicine saw how problematic the timing of the process was and moved to bring testing in-house.

The team worked day and night to meet rigorous lab requirements and were successful in their efforts to augment the lab's capabilities within days to do rapid testing with a 24 hour turnaround time. They received approval on March 24, 2020. This was a dramatic improvement to the screening process.



READ THE BU BRINK ARTICLE



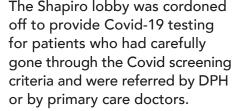
#### SCRENING PATIENTS AT THE FRONT DOOR OF THE ED

With the increase to 328 confirmed cases in Massachusetts, Governor Charlie Baker declared a state of emergency on March 10, 2020 in response to the Coronavirus outbreak. The BMC Emergency department ramped up activities to mitigate the influx of patients including the use of Hazmat screens in the waiting area, a dedicated Covid-19 pod space for treatment, and readiness drills for the Hazmattrained staff.

Tents in the Shapiro driveway were set up to pull triage forward to separate patients who presented for care in the ED from those with influenza-like illness and fever. The ED and Float Pool nurses conducted screening and evaluated patients at this initial triage point.















COVID Annual Report 2020 17 16 Boston Medical Center Nursing Department

#### HOSPITAL FLOW

Coronavirus screening began for everyone coming into the hospital and main entrances were re-configured to maintain single entry points. The Yawkey building's main entrance doors were closed off, the Moakley building was restricted to patients and staff only and the majority of the flow came through the Menino entrance. This was critical to ensuring the safety of our patients and staff at the hospital.



### MANAGING VISITORS

At the start of the pandemic, visitors to inpatient and ambulatory areas were limited to one at a time. As the number of confirmed cases increased at the hospital, visitors were no longer able to be with their family members. Information Technology Services (ITS) deployed mobile tablets to unit areas to help with patient/family communication.

It is impossible to overstate how painful this was for patients, families, and the staff who had to not only care for the patients but be their sole comfort.



#### ENSURING EMPLOYEES ARE SAFE

Human Resources began substantial workforce planning. They implemented policies such as restricting travel and moving employees who could do their full job remotely from home. This promoted safety by reducing the number of people and maintaining adequate physical distance between people in the hospital. They also supported furlough and re-deployment processes. Additionally, support and resources such as the Employee Exposure Plan were developed by the Working Well Clinic for employees who were exposed to a patient or household member with Covid-19.



#### ELECTIVE SURGERIES CANCELED

On March 15, per Massachusetts state order, all elective surgeries were suspended. The Ambulatory clinic teams worked to reschedule and delay outpatient visits that were non-urgent. Elective procedures, cases, and visits were canceled. Ambulatory clinics and outpatient areas were closed and limited to patients who needed urgent care.

Ambulatory nurses took thousands of calls daily, allaying people's fears, addressing health issues and questions, and assisting patients. Even though the volume of inperson visits was down, the call volume dramatically increased.

Soon, the closed surgical areas would be filled with non-Covid patients.

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A group of addiction nurses would meet every day, never running out of things to say. One day in March we said "I'll see you soon" and all quickly became experts in something called Zoom. For our dedication could not be deterred, in making sure the patients could be heard. —JOHN MANNION, BSN, RN, CARN

## CNO DAILY VIDEO BRIEFINGS

On March 17, 2020, CNO Nancy Gaden started broadcasting live daily video briefings to communicate the fast-paced, unbelievable changes facing BMC and the country as Covid-19 took over our lives. "I want to ensure that people feel like they have enough information—and have an opportunity to tune in and hear what's new, and to stay connected in this historic, frightening time," said Gaden.





## PERSONAL PROTECTIVE EQUIPMENT

Nursing Professional Development started planning education around personal protective equipment (PPE) for all staff. They created videos on how to don and doff masks, gloves, and shields in the safest way possible. Education was constantly evolving as the DPH released updates and changes.

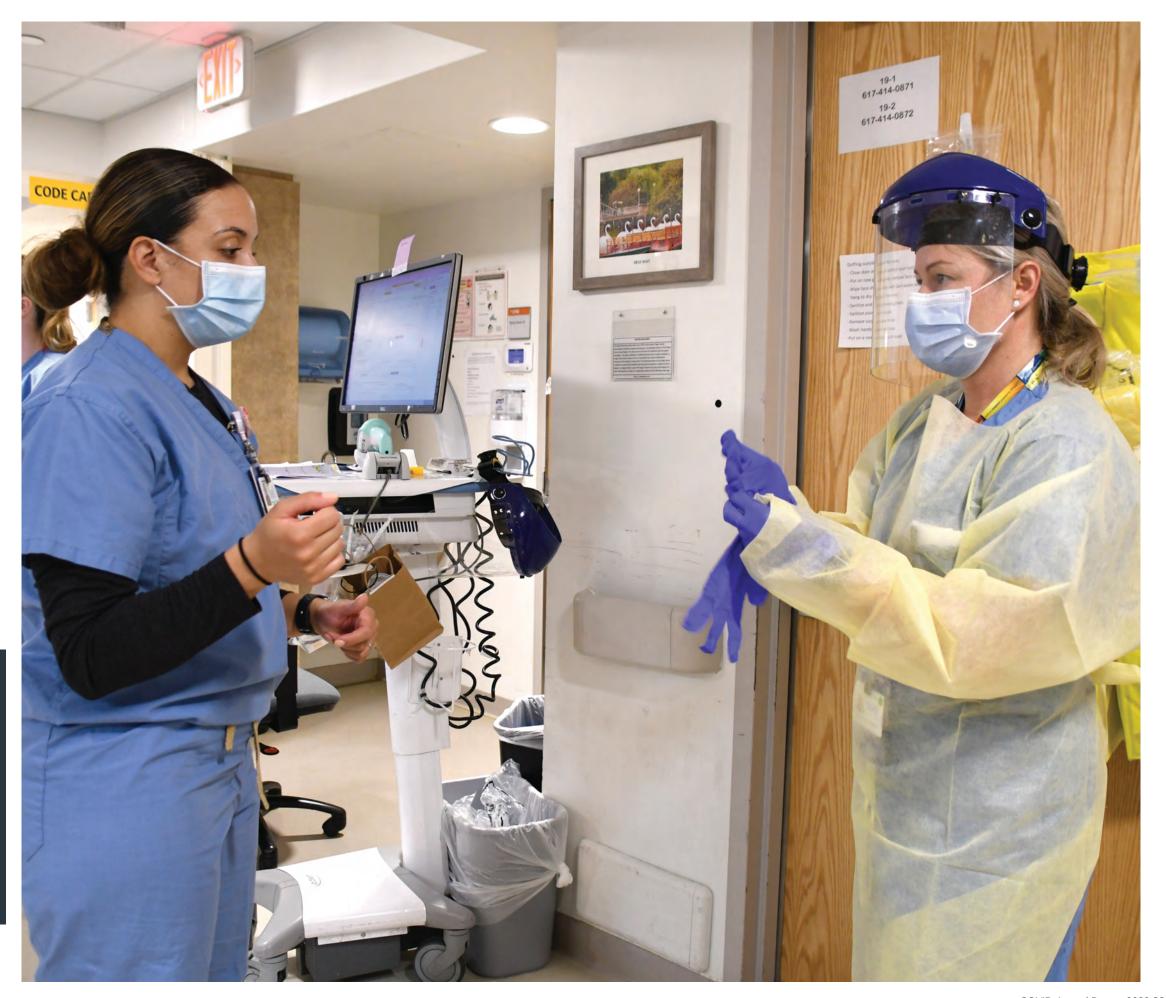
Nursing Professional Development, Infection Prevention, and Hospital Epidemiology developed isolation precautions and guidelines for aerosol generating procedures, medication handling, and dozens of protocols based on CDC guidelines designed to prevent exposure to the Covid-19 virus.



Don the PPE. Take a breath...relax. Patient first. Put aside fears and anxieties. Enter the room. Begin the treatment. Treatment time 4 hours. Time moves slow.... seems forever. Ease patient's uncertainties with warm, caring, gentle eyes that project a smile. Soothing touch, hands held, calm presence. Treatment complete. Doff. Breathe.

NAJAT FRANCHAOUY, RN
ROSA VOLQUEZ, RN
CHRISTOPHER SPOON, CCHT
SHEFALI TRIVEDI, RN
MARCIA DEYCH, RN
NEMIAH BROWN, CCHT
SAMIA VIGNE, CCHT
SHANETTA YOUNG, RN
ERWIN VELDEZ, RN

HUIWEN CHEN, RN
LORDINE LAMBRE, RN
KRISTEN GEARY, RN
DAVID DAMPTY, CCHT
PABLO RIVERA, CCHT
KYM BROTHERS, RN
RICK AVILA
MARY DOHERTY, MSN, RN, CMSRN
CHRISTINE SARAF, MSN, RN, CNL





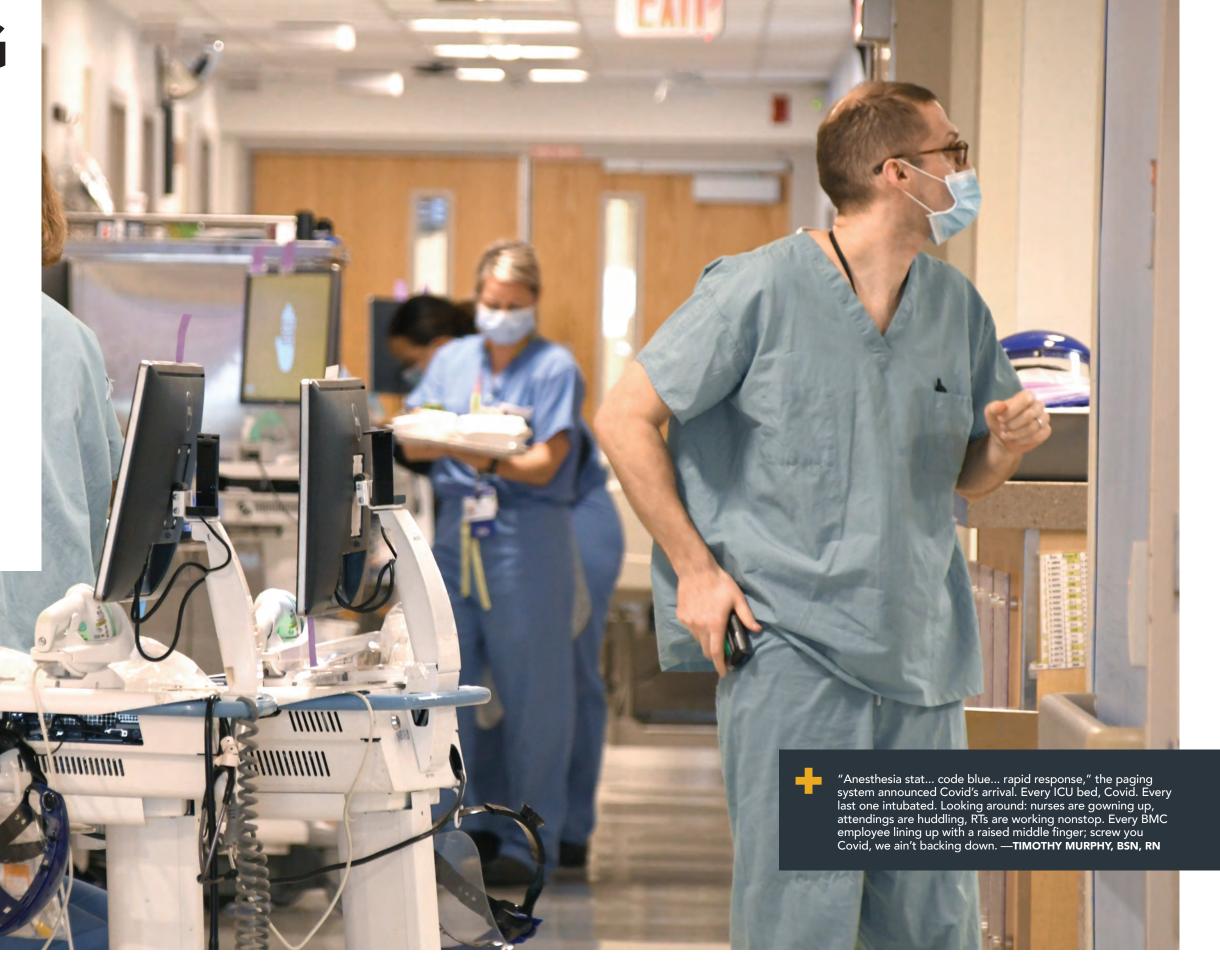






## PREPARING FOR THE SURGE: STAFFING

Adequate staffing is an essential part of providing expert nursing care 24/7 for patients. Planning for staffing started early. The Nursing leadership team secured travelers and looked more broadly at how to ensure adequate resources to care for an increasing number of critically ill patients. "We have a lot of talent—and for areas that are closed, we've been thinking about how best to work with groups of nurses to ensure we can have the support we need in all areas across the hospital," said CNO Nancy Gaden.



## A PHYSICIAN'S PERSPECTIVE: STAFFING

#### REMARKS BY JAMES HUDSPETH, MD, FACP

The medical staff was reorganized to establish Special Covid Physician teams to respond to the surge in medical and critical care demand.

#### Staffing

"Similar to Nursing, we are making sure we have the right staff for the right space. We leveraged our experienced hospitalist providers and added residents from our residencies who do not usually do inpatient medicine like ophthalmology, dermatology, neurology but have enough skills to augment the teams. Family Medicine is doing the same thing."

#### Workflow

"Every unit has two or three teams of physicians, and it's just those teams that will have patients on those units with a few exceptions. This will allow for greater communication between physicians covering a given unit. They will see the nurses throughout the day, making it easier for the nurses to find the physicians for questions."

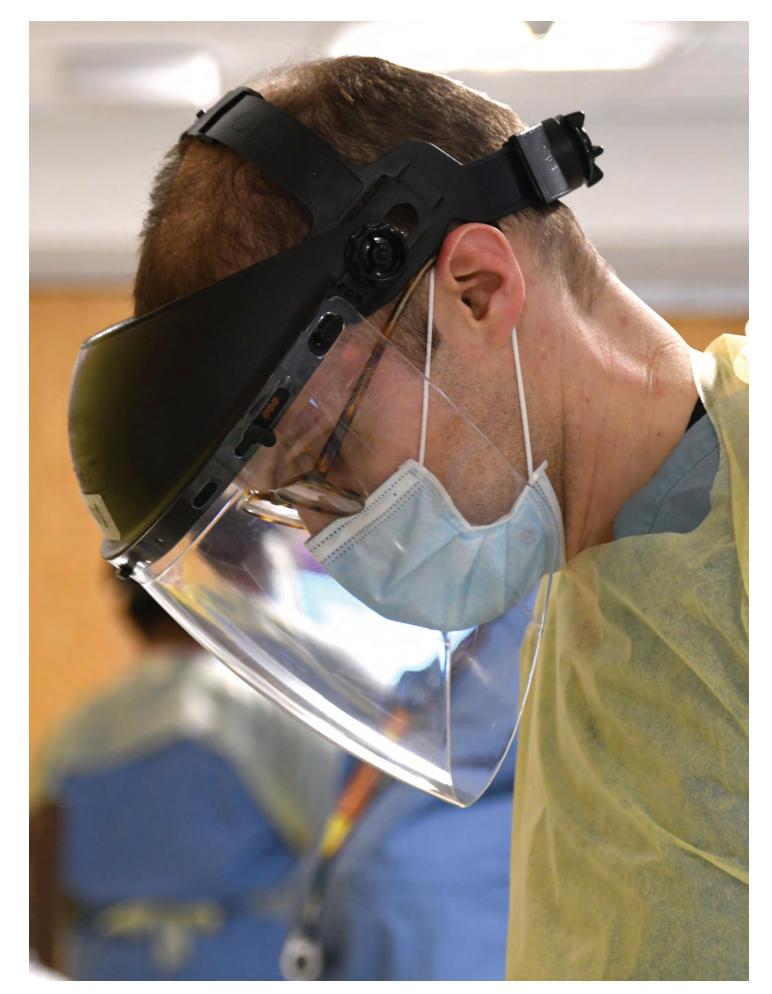
#### **Patient Care**

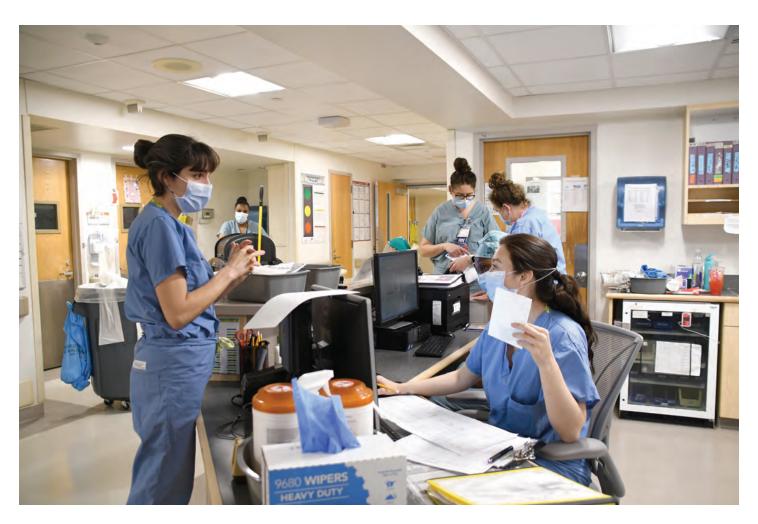
"The biggest thing that surprised me was how quickly these patients turned and became critically ill. It's not like other respiratory infections that we've seen over a decade. "

#### **Teamwork**

"I've been very pleased but not surprised to see the level of teamwork we've had. It's been a real testament to the strength of the BMC team and the connections we've built up before this all hit. The relationships that my physician leadership and I already had with nursing leadership have just been vital for us to make this happen. We've re-imagined the entirety of care over four weeks at BMC. I think we've landed in a pretty good spot more quickly than I think other organizations could because we had those relationships already."









## REASSIGN-MENT OF NURSES

As Nursing prepared for the surge and units closed, approximately 159 courageous and talented staff nurses were reassigned to other areas that desperately needed them.

One hundred nineteen nurses had critical care or medical/surgical experience. They were redeployed from these hospital areas:

- · Amb Belkin Breast Surgery
- Amb BUAP-Charles River
- Amb Cardiology
- Amb Family Medicine
- Amb Geriatrics
- Amb General Internal Medicine
- Amb Heme/Onc
- Amb Neuro
- Amb OBGYN
- Amb Pediatrics
- Cardiac EP Lab
- Endoscopy
- EndovascularFast Track
- Menino Pedi Float Pool
- Nursing Medical Short Stay
- OR Nursing—Moakley
- OR Nursing—Menino
- PACU Nursing—Moakley
- PACU Nursing—Menino
- Yawkey Labor + Delivery
- Yawkey Pediatric ICU
- Yawkey Pediatrics

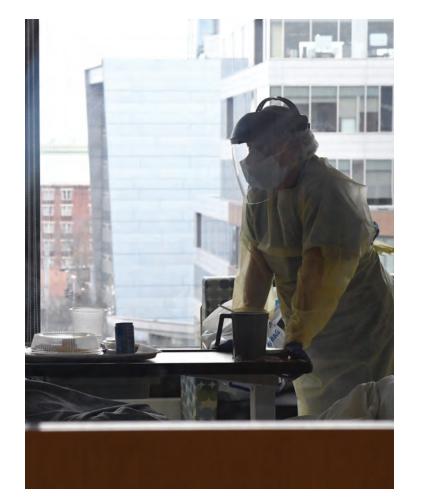












"Surgical nurses are now taking care of medical patients, and nurses who are pediatric nurses are taking care of adults. Everybody has come out of their expertise zone and what they've chosen to focus on in their careers. It's incredible when you look around the hospital and all of the flexibility nurses have. They have created the best possible experience for patients in places we have had to make into inpatient space. I would never have imagined that our hospital staff would have this strength, courage, flexibility, and compassion. It is unbelievable."

—CNO NANCY GADEN



#### DELIVERING MOBILE PEDIATRIC MEDICAL SERVICES

During the pandemic, child immunizations dropped at a dangerous rate as parents avoided routine doctor visits. Children were at risk for measles, whooping cough, and other life-threatening illnesses if they did not get their vaccinations.

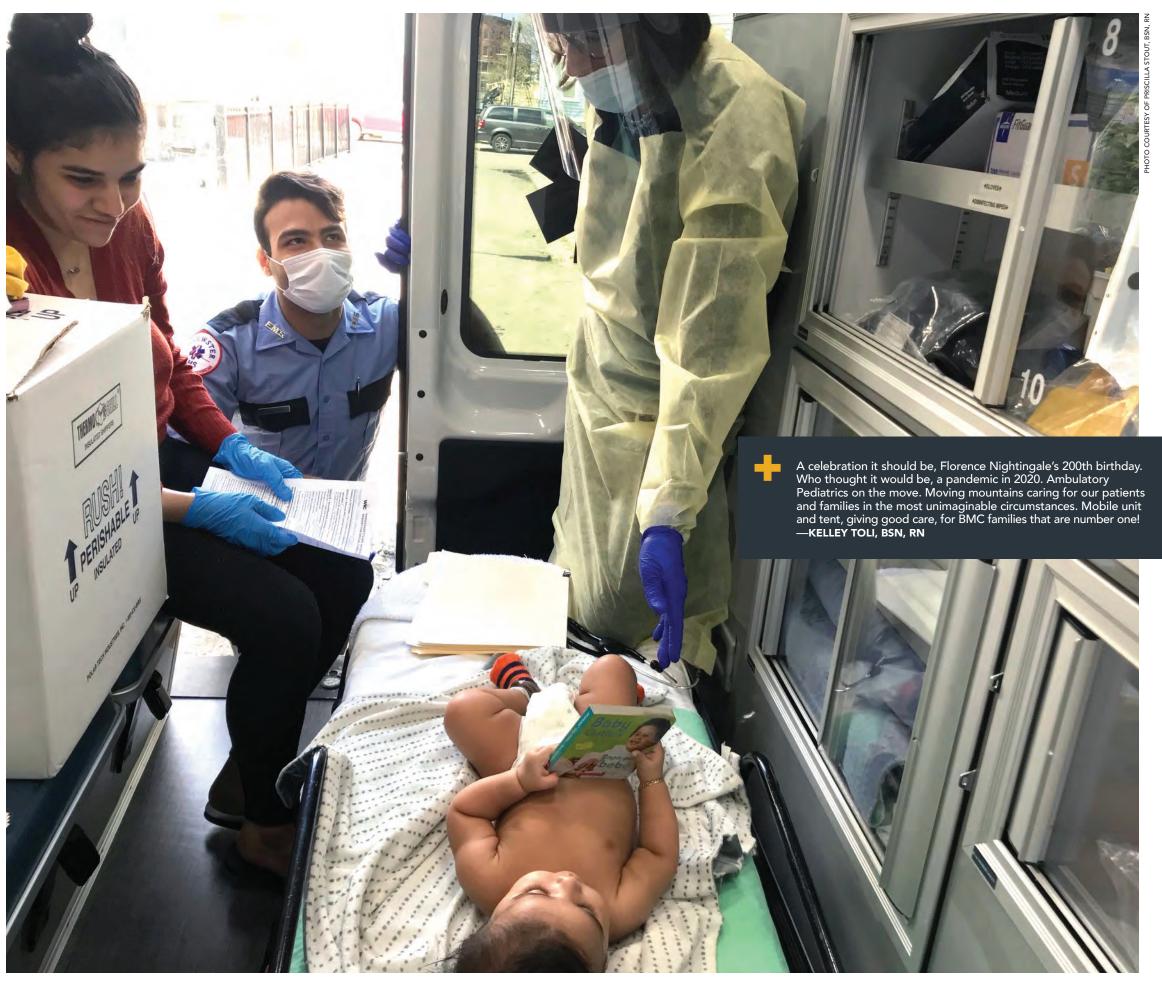
The Ambulatory Pediatrics team developed plans to set up an alternative care delivery model to bring vaccines and visits to the home and partnered with colleagues from the BMC Supply Chain and Brewster Ambulance.

On May 1, 2020, they began mobile vaccinations for children in our local communities.





READ THE NY TIMES ARTICLE



### NURSING SPOTLIGHT: CATHY KORN

Cathy Korn, MPH, RN, CIC, is "an absolute powerhouse" when it comes to Infection Control. She has been an excellent example of a nursing professional who has contributed day and night to support her colleagues and our patients on so many fronts.



#### Tell us why you became an Infection Control Practitioner.

Not long after working at University Hospital as a staff nurse, AIDS appeared on the forefront. There were no infection control nurses. It was a brand new profession. People were scrambling to learn all about infection prevention and develop a career. I said, "Oh, this is a wonderful opportunity!

What could be more interesting?" So I had the opportunity at University Hospital to move from a staff nurse into infection control. I have never left. It has been an inspiring journey.

#### How has your career evolved?

When I started caring for patients with AIDS, and many of you are probably frightened of patients who have Covid, we felt the same way. However, we quickly learned that with essential infection control, you could protect yourself. I still think that that is true today.

With AIDS, we first began using personal protective equipment, just gloves. Then we had the benefit of legislation mandating it for all practices, so it became a much safer work environment. And then, many years passed, and we had TB and all the other infectious diseases, and then came Ebola.

Ebola was more frightening than HIV because we saw healthcare workers getting infected. Those first few cases where staff didn't wear personal protective equipment appropriately ended up getting infected. We spent a lot of time working on donning and doffing as we are doing now. However, we were fortunate never to care for patients with Ebola. We had one patient that ruled out, but we were ready. We spent a lot of time learning how to do this. And then there was a lull, and the typical infectious diseases continued. Now, we have Covid-19.

It's so different with Covid because, as healthcare professionals, we're trying to ensure that we have the right PPE, but it's out there in the community.

That is probably my biggest concern working with all the staff, who have been phenomenal. No matter what we've asked them to do, there have been very few complaints in every discipline. Dave Maffeo has done an excellent job securing whatever he can to provide a safe working environment, and we will continue to do so because I think this is not going away quickly.

#### How should people be thinking about social distancing? We have small breakrooms, workrooms...

That is the biggest challenge because I don't think that healthy individuals see themselves as possibly asymptomatic carriers. The fact that you can walk into a physician's workroom and see them sitting right next to each other eating lunch on computers that are two feet apart. So we had to remove chairs from those workrooms.

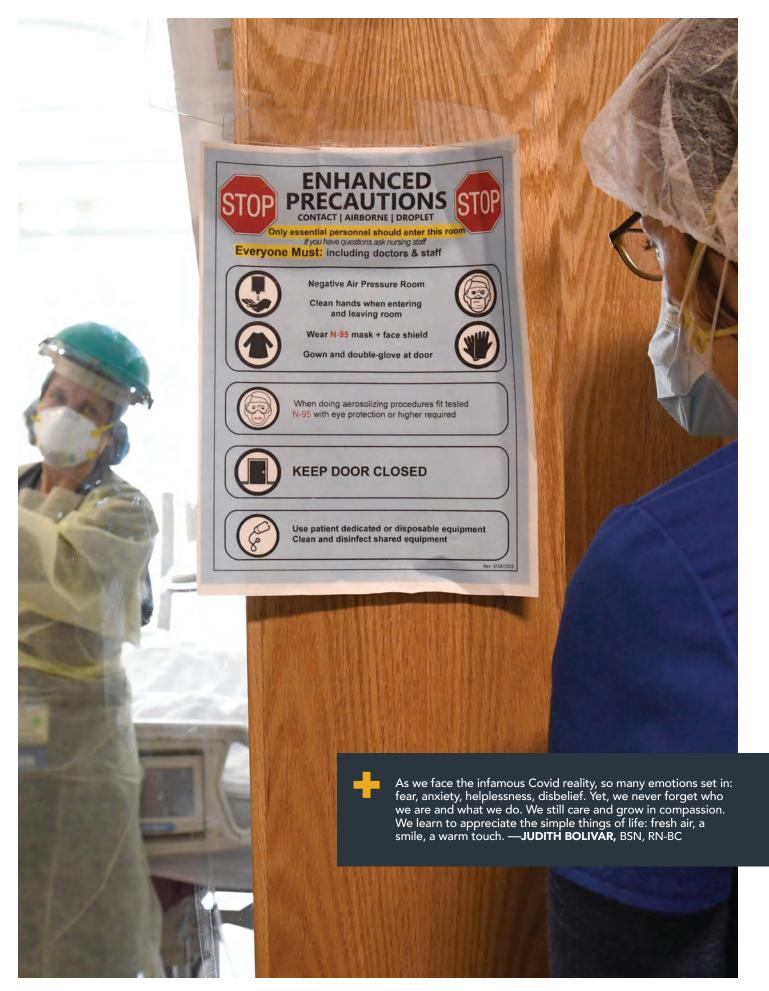
Nurses' break rooms are tiny, and people want to go in there and enjoy all the food that we've been given the past month. However, they're in there too close without their masks. That's what keeps me up at night. To see healthcare workers probably infecting each other by not practicing social distancing.

#### Any last thoughts?

I am so proud to be part of the BMC community and have been a part of witnessing the outstanding care and compassion that all of the providers at BMC have offered to our patients. I thank all of you.



IN AUGUST, CATHY
KORN, MPH, RN,
CIC WAS HONORED
BY THE BOSTON
RED SOX AS
PART OF JOHN
HANCOCK'S HATS
OFF TO HERCES
CELEBRATION AT
FENWAY PARK. WE
ARE SO PROUD
OF HER AND ALL
THE WORK SHE
DOES FOR THE



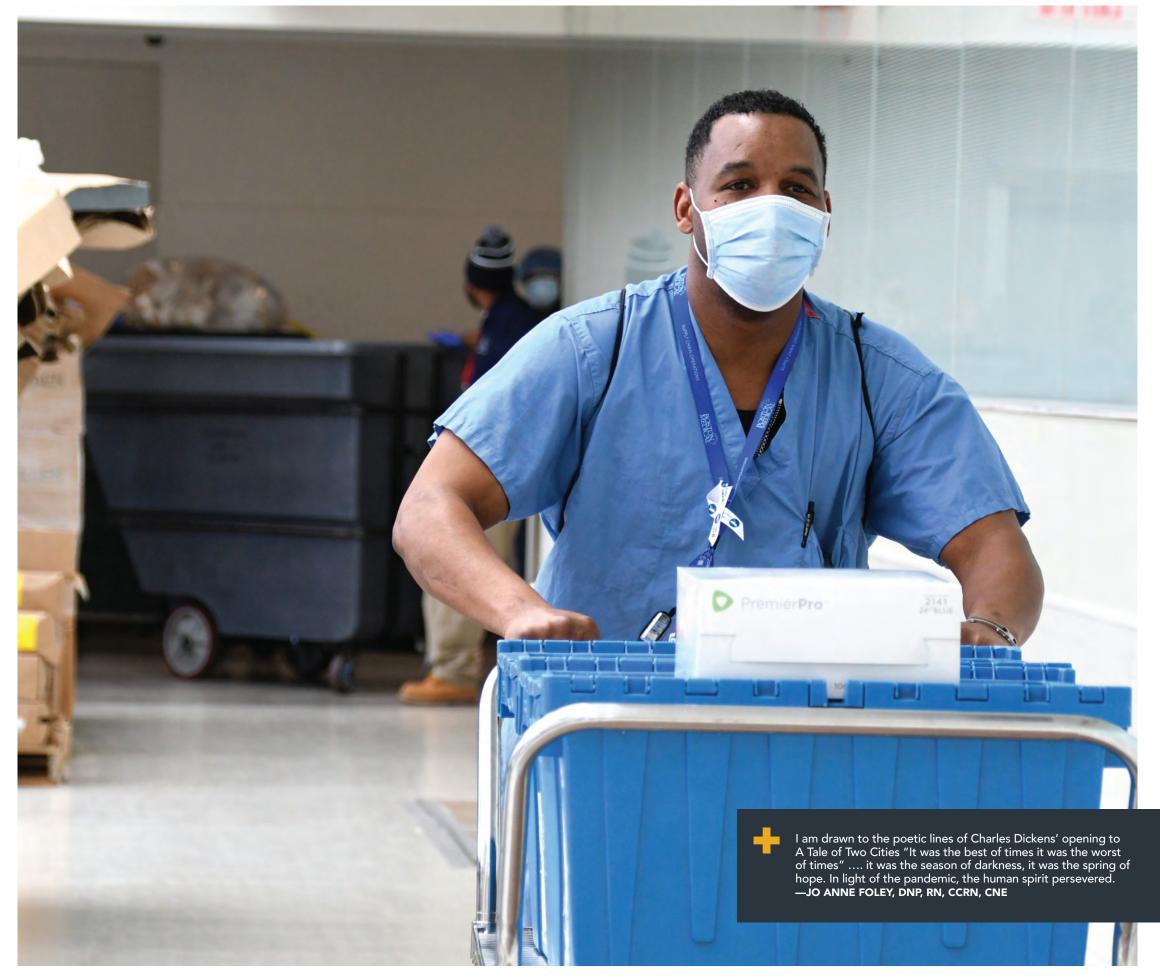
#### INCREASING BED CAPACITY

In this rapidly changing environment, Nursing leadership had to think about volume and bed capacity for Covid-19 positive, Covid-19 rule-out, and Non-Covid patients. They were opening up new areas to care for patients requiring a great deal of effort and flexibility on the part of the staff.

Epic mapping, PC printing, telecommunications/ phones, labels, equipment, supplies, defibrillators, code carts, supply rooms stocked, scanners, labs, nursing and physician staffing plans, identification of patients who will be moved to the space, new deliveries for food, notification to Facilities, EVS, Public Safety, Transport, Nutrition, etc.—are all part of the work needed to open up new spaces.

"We had a huge team of people who pulled everything together quickly to create additional Critical Care and Med/Surgical beds. I can't believe how wonderfully people worked together in these difficult times to address these huge challenges. I am so grateful."

—CNO NANCY GADEN



































## THESE PHOTOS TELL THE STORY THROUGH THE EYES OF OUR STAFF.

FROM A BOARD MEMBER DONATING HOTEL STAYS FOR EMPLOYEES TO CHILDREN'S ARTWORK DISPLAYED ON EVERY FLOOR, THE OVERWHELMING AND UNBELIEVABLE SUPPORT FOR OUR BMC STAFF WAS PALPABLE.

# ARE BINC STRONG









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- b. No one likes makeup anyway!
- 7. God loves Us
- 8. Everything is gonna be alright!
- 9. In every dark cloud there is a Silver lining
- 10. Warm still LAUGHING!!!

  11. Remember!! God did not give us a spirit of
  Fear but authority, and sound mind and Power.





# RESPIRATORY CARE

At the start of the pandemic, the Respiratory Therapy team hit the ground running to provide mechanical ventilation and respiratory care for Covid patients. They worked with clinical staff to innovate and adapt non-invasive machines and anesthesia vents into ventilators, moving the regular critical care vents to the most critically ill patients. This out-of-the-box thinking also resulted in new approaches for care such as:

- Adding disposable filters for non-ventilator trach patients;
- Using a helmet BiPAP for contained non-invasive ventilation;
- Using nitric oxide (NO) tanks to prevent or delay ventilation use; and,
- Providing inhaled Veletri medication for very sick intubated patients.

During the surge, BMC ventilator capacity increased three-fold and daily staffing increased by 33%.

"The RTs were in the room every time a patient was proned or turned back, and also repositioned prone patients' heads and tubes. They were in so many places at once, learning new modalities, supporting novice nurses and team members, and constantly triaging their available equipment to get the right strength ventilator to the right patients. The can-do attitude of my staff was an inspiration to watch and seeing all the teams come together to get it done."

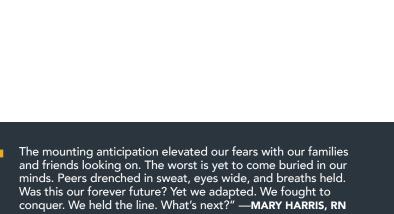
—BRUCE MACNEIL, JR., BS, RRT, DIRECTOR OF RESPIRATORY THERAPY

# RESPIRATORY THERAPISTS

Our BMC Respiratory therapists have been phenomenal partners for the nurses and physicians.

"They are the unsung heroes of our healthcare system. They are the most humble, even-keeled team members—always prepared, present, knowledgeable, and focused. Their knowledge, experience, and compassion are vital to the outcome of every patient. Even more so to the victims of Covid-19. They calmly, quietly, and professionally step up, step in and save lives every day and night. It is a privilege to work alongside the best respiratory therapists in the world."

—ANDREE MCMANUS-JAEHNIG, ADN, RN, CRITICAL CARE RESOURCE NURSE





# RE-THINKING ANESTHESIA

#### **REMARKS BY RAFAEL A. ORTEGA, MD**

#### **Surgeries Suspended**

"COVID-19 had other plans for us. When procedures, including surgery, endoscopies, and other procedures except for those that are life-saving, it introduced a tremendous change in the way we practiced as a department. We have approximately 35 attendings, 30 nurse anesthetists, and 33 residents. And some may think that we don't have enough for them to do but, nothing could be further from the truth, and we had to adapt. So, one of the most important modifications that we did was create an airway management team around the clock 24/7."

#### **Using Anesthesia Machines as Ventilators**

"Our anesthesia machines are equipped with mechanical ventilators that can lend themselves for that, although they are not specifically designed for long-term use in intensive care units. And so, we introduced a new set of practitioners with this new set of equipment. One needs to be very proactive at maintaining those communication channels and collaboration. It's been a great experience overall."

#### On Teamwork

"There's been a newfound sense of pride in Anesthesiology in contributing effectively. This has allowed us to reflect on our interpersonal relations and strengthen our bonds within the department. We will be more effective as a workgroup and with other healthcare providers. We will be a better institution after this is over."



Covid-19. How Does It Make The Two Me's Feel? Nonessential Me: Afraid, confused, anxious, exhausted, nervous. Frighten, cautious, angry, emotional, nauseous. Lonely, confined, amazed, energized, neighborly. Loved, caged, aware. The Essential Me: Dirty, tired, sweaty, hot, clammy. Dehydrated, teary, strong, hopeful, calm. Despair, tough, scared, heartbroken, clever. Drained, thankful, spent. —BONNIE MESSINA, RN



# A PHYSICIAN'S PERSPECTIVE: CRITICAL CARE

#### **REMARKS BY MICHAEL H. IEONG, MD**

#### Being at the Frontline of Patient Care

"The absolute frontline is the nurses (as is often the case), and what's challenging about the frontlines is that this disease isolates people, and it isolates people by surprise and potentially at the end of life. We all understand that, and in particular, it's hard to see somebody go through their last days in a very isolated way. We try to provide solace and do whatever we can. Yet we have to move on because the volume is so high, and the beds are so needed that you do not have time to process it."

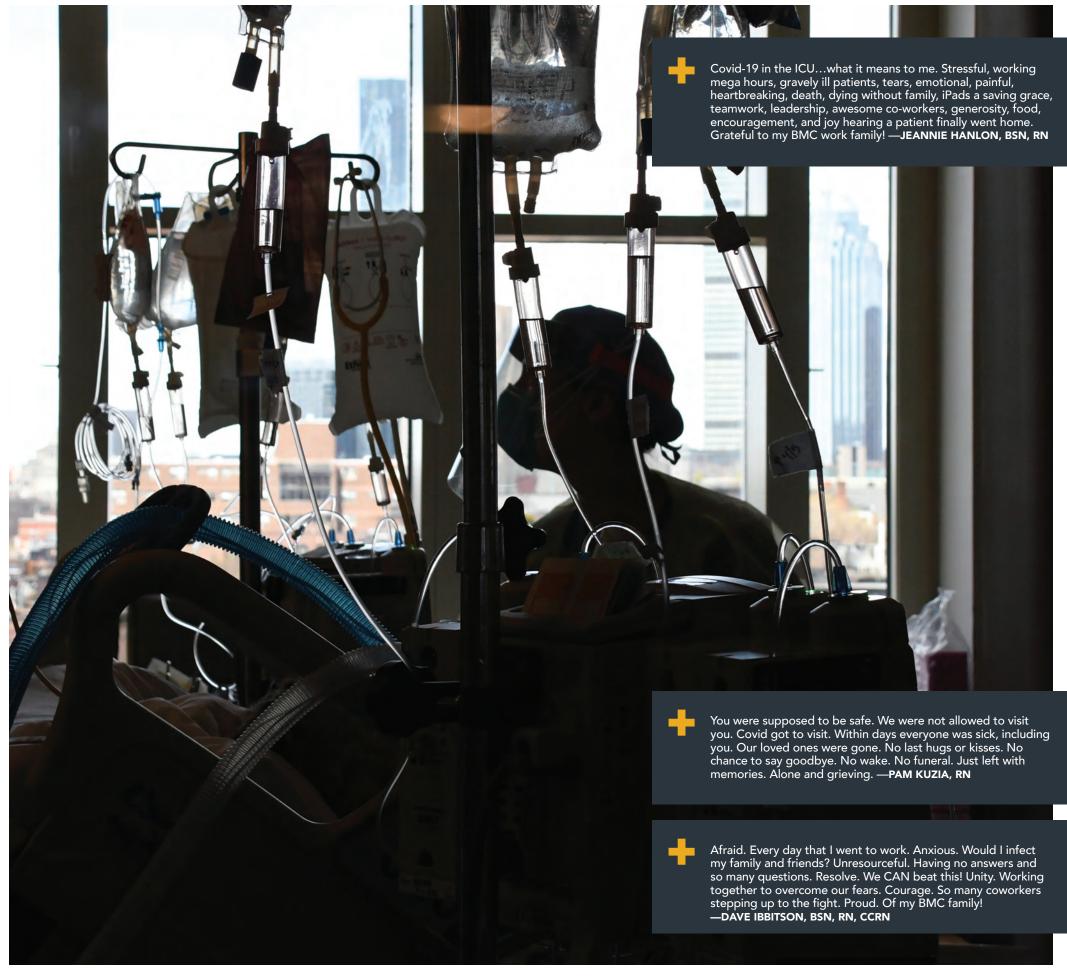
#### **Teamwork**

"Throughout all this, it's been a team effort. We've had to work hand in hand quickly with Nursing to strategize and expand ICU capacity. We've also talked about ventilator allocation and crisis standards of care. It's a hard conversation to have, and we believe we're probably not going to have to go there, although we do have to prepare for it."

#### **Advocacy Around Health Disparities**

"I'm so proud of the hospital because we have a lot of local hospitals asking us what we're doing and asking us how we've managed it. I feel very certain that we've managed it well."

As I look into his eyes I can see that my patient is as frightened as I am. My training helps calm his worries as I silently pray that he will be stronger than this dreadful virus. It has touched his life but was not able to steal it away. —**DEBORAH MURPHY, BSN, RN** 





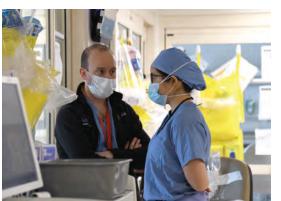












# EVOLUTION OF BMC PPE

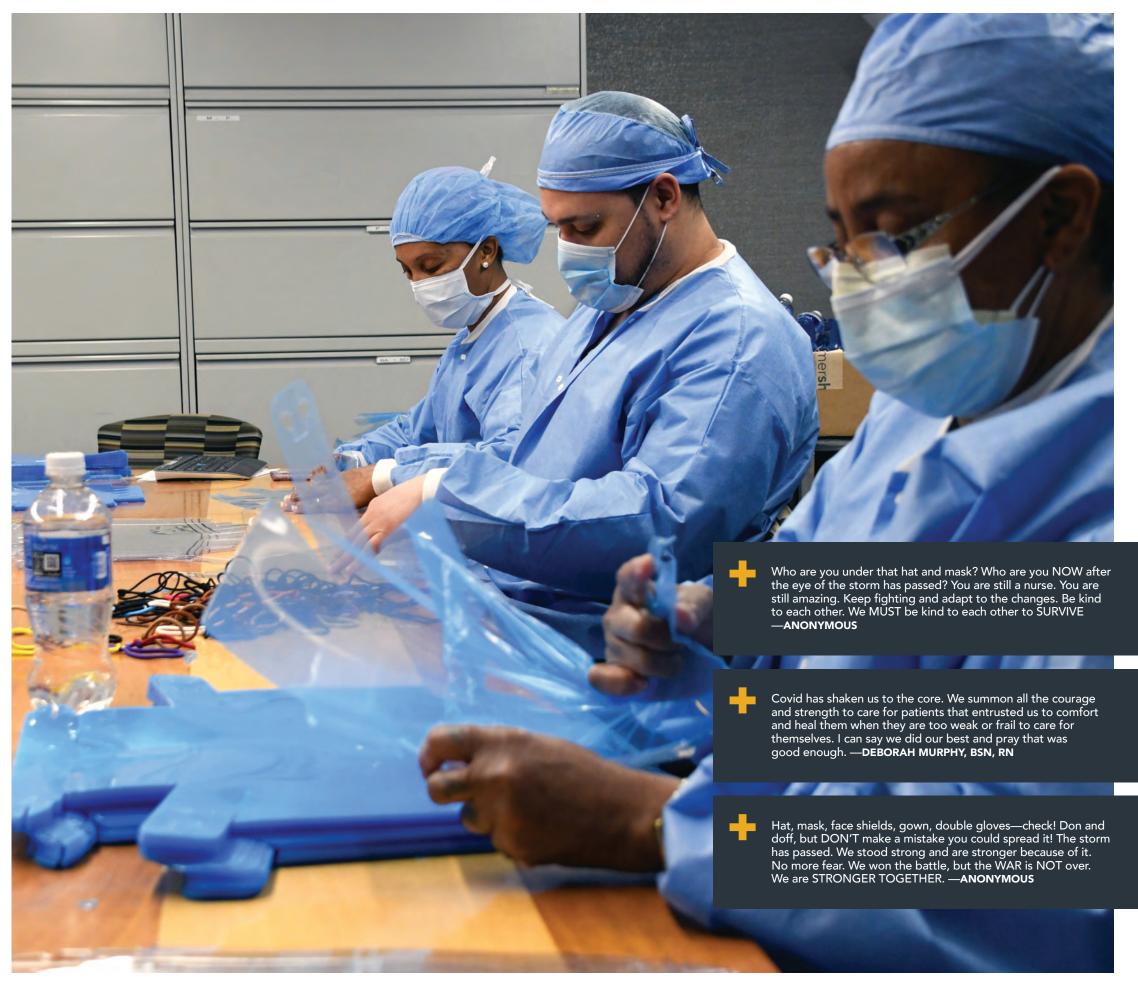
The hospital focused on ensuring that staff had enough personal protective equipment (PPE) from the very beginning. Supply Chain and Support Services worked hard to secure PPE from all over the world. Donations of PPE came pouring in from companies, small groups, and individuals who wanted to support our healthcare workers.

#### To conserve our PPE inventory, we:

- Switched to face shields that can be wiped down completely
- Re-fit tested for different sized N95 masks (and retested and retested)
- Enlisted the help of MIT to design and create single-use face shields
- Worked with the Central Processing department and Battelle to sterilize and decontaminate N95 masks for reuse—though we never had to do that.
- Used Tupperware containers for clinical staff to keep their N95 mask (one per shift) for extended use

#### Our BMC PPE utilization by the day:

1,000 Regular/Universal N95 masks8,800 Surgical masks237 Face shields57,000 pairs of gloves5,600 gowns









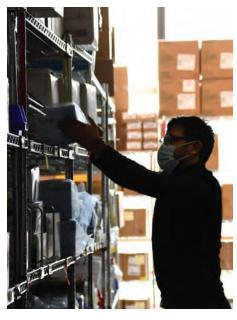




























# INFECTION PREVENTION AND HOSPITAL EPI-DEMIOLOGY

Hospital Epidemiologists and Infection Prevention nurses continuously analyzed and interpreted a vast amount of emerging research and guidance from the CDC, making sure we had all the up-to-date information we needed to care for patients and create a safe work environment for staff.

"The role of infection prevention has never been more challenging and critical during this pandemic. Despite these challenges, there was a great sense of teamwork and collaboration from all disciplines. We were able to persevere by working together and finding innovative ways to adapt during these unprecedented times. I am very proud to be a part of the BMC family and work with so many inspiring individuals."

—JACQUELINE STEINER, RN, BSN, CIC, NURSE INFECTION PREVENTIONIST

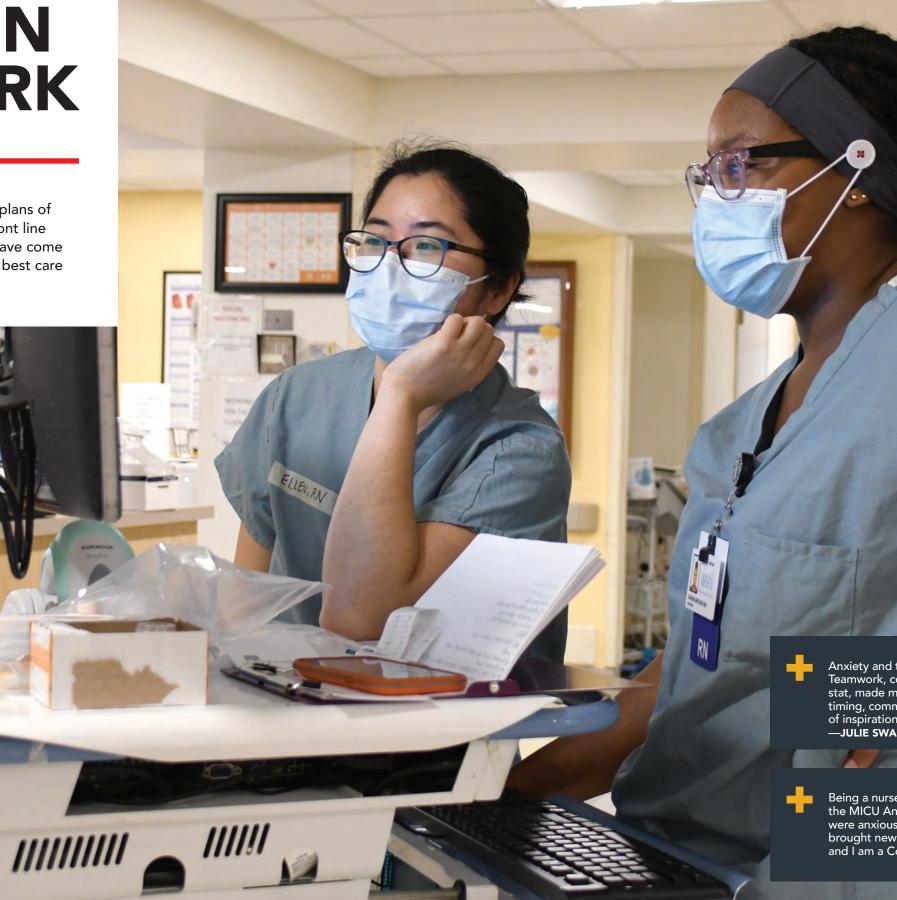


Oh, Covid! Where is your victory and where is your sting? We are at war with an invisible enemy! You look around—things start falling apart and you think that the center cannot hold. You fight with faith and hope, holding the bull by its horn then fear melts away. —NNEKA NWOKEJI, BSN, RN



# INNOVATION & TEAMWORK

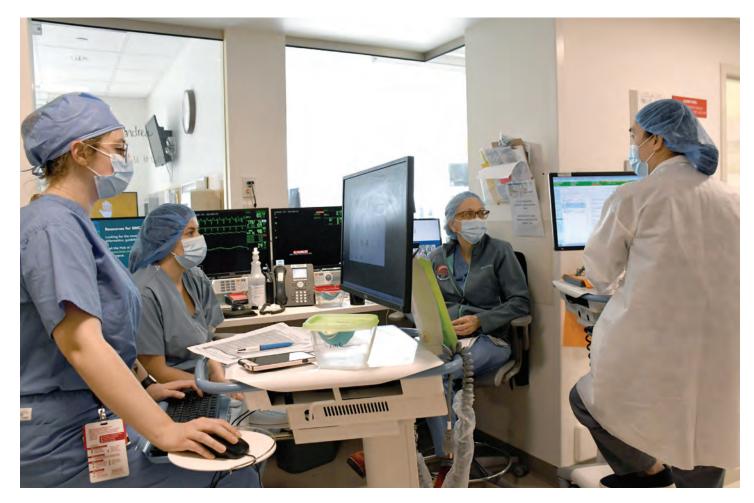
Clinical care in every single hospital area required new plans of care and innovative solutions to complicated issues. Front line staff developed and implemented best practices. We have come a long way together in ensuring we are taking the very best care of all patients.



Anxiety and tears, freaking out on the curb at night shift.
Teamwork, compassion, makes the dream work. Anesthesia stat, made my stomach sick and brought tears to my eyes. Face timing, community support, applause gave us strength. Messages of inspiration at the front doors. Kicking Covid's butt every day.

—JULIE SWAIN, RN

Being a nurse of color behind a mask, I volunteered to work in the MICU Annex unit. The group of nurses that I worked with were anxious, apprehensive, but eager to learn. My experience brought new friends and admiration for 5 West IMCU nurses, and I am a Covid-19 survivor!—SUZETTE BIANCHI, RN

















# **SUPPLY CHAIN**

Supply Chain is a critical department every day of the year. With Covid-19, production came to a halt in China. The resulting supply challenges were nearly insurmountable and coupled with the spiked demand, production capabilities were severely impacted globally.

BMC saw a five-fold increase in the need for PPE in the first two weeks of the pandemic. Supply Chain has never delivered so much equipment and supplies to every single area at the hospital to support patients and staff alike.

"The entire world needed the same supplies at the same time. We found ourselves in the middle of a worldwide supply grab. We worked with our primary vendors on an hourly basis to secure more supply and exhausted all avenues. Many of the staff put in 12-16 hour days assisting in this effort and it went on for several months,"

—SCOTT RUTLEDGE, DIRECTOR OF SUPPLY CHAIN

A company of the comp

ENVIRON-MENTAL SERVICES (EVS)

The Environmental Services department was at the front lines with us. They were cleaning more spaces than ever and hyper-focused on ensuring that they did their part to keep patients and staff safe.



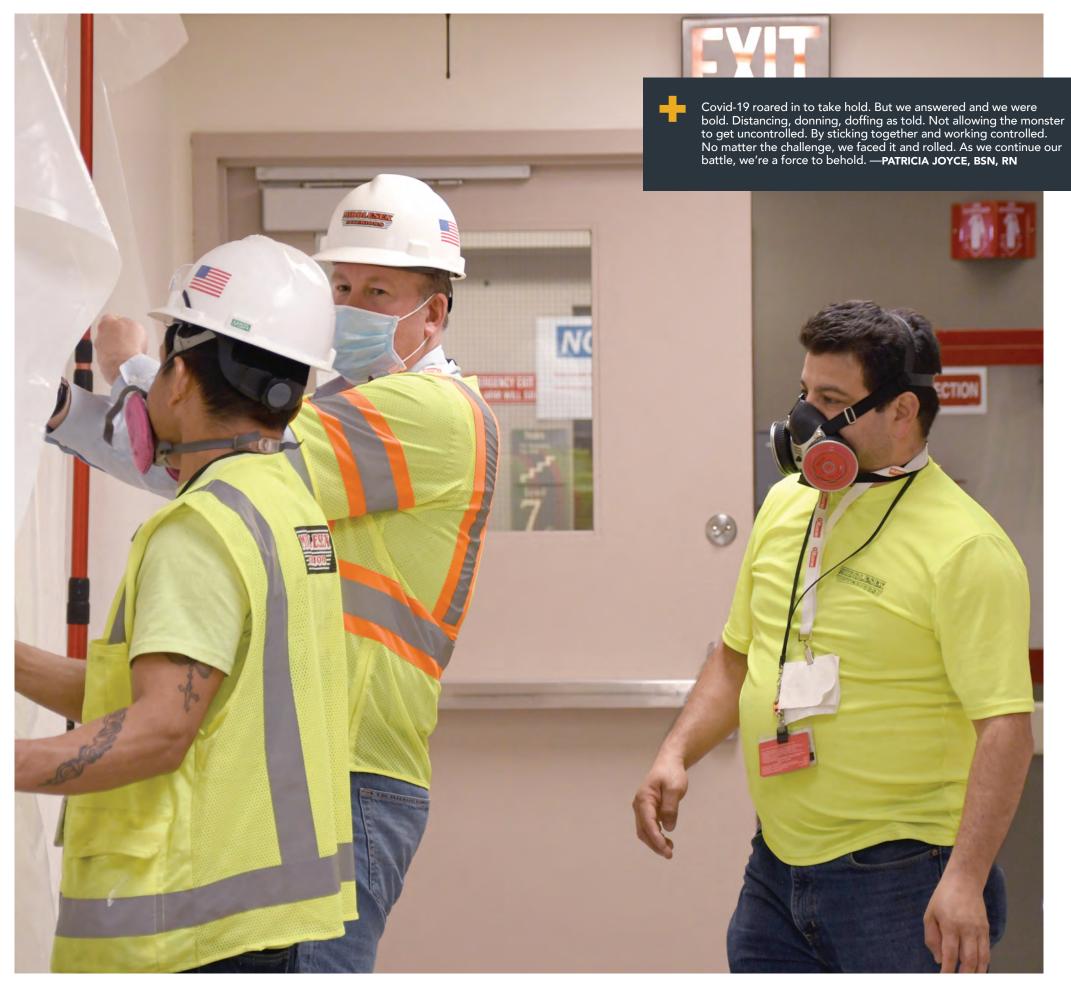
**NUTRITION SERVICES** Nutrition delivered more meals as BMC established additional spaces for inpatient care across the hospital.

# EAST NEWTON OPENS AS COVID RECUPERATIVE UNIT

Colleagues across BMC pulled together and found a way to open the East Newton Pavilion as a Covid Recuperative Unit (CRU) for homeless patients who were Covid positive so they would be able to isolate and recover. Most people experiencing homelessness live in communal spaces and are at a higher risk for infection transmission. The Healthcare for the Homeless and Shattuck Hospital partnered with BMC to meet the community's needs.

On April 10, BMC nurses and staff welcomed patients and opened the first floor providing 65 beds in the CRU. Soon after that, additional floors were opened. Covid positive patients discharged from the Emergency Department who did not need to be admitted to the hospital could go to the CRU, providing this much-needed space while recovering from their Covid diagnosis.



















# HEALTH DISPARITIES

On April 10, 2020, Boston Medical Center CEO & President Kate Walsh was invited to be part of Governor Baker's press conference, focusing on Covid-19 and health disparities. She said, "Many of our patients have continued to work. They're essential workers, cleaning buildings, preparing food, stocking shelves, loading trucks. They don't have the option of staying home. Many have pre-existing health conditions that put them at further risk. A large portion of our patients live in multi-generational housing and some are homeless. The virus is hitting certain racial and ethnic groups harder at our hospital. 80% of our Covid-19 positive patients are black or Hispanic compared to about 58% normally."

Our local communities were hard hit by Covid-19 disease and it has led to important conversations about disparities in healthcare. As we have gone through this pandemic we have seen the disproportionate impact on people of color. We are driven to work tirelessly on access and equity in healthcare as well as the social determinants of health.



WATCH GOVERNOR BAKER'S PRESS CONFERENCE





# REBOUNDING | **AFTER THE SURGE**

With the Covid-19 census on the decline, the hospital focuses on plans to recover and rebound. The pandemic has become a new reality for staff and BMC continues to remain vigilant as Massachusetts cautiously re-opens.



**STAFF SHARE** THEIR EXPERIENCES IN THIS HEARTFELT **VIDEO, "IN THEIR** 



## NURSING SPOTLIGHT: STEPHANIE MARTINEZ



Stephanie Martinez, MBA, BSN, RN, CPHQ is the Associate Chief Nursing Officer for Ambulatory Services. She has been at BMC for 19 years in various nursing roles. As ACNO, she oversees the nursing care of approximately 50 ambulatory clinics on and off-campus, including the Roslindale Community Health Center and the BU Affiliated Physicians group.

#### Tell us about Ambulatory at BMC.

We see about 900,000 outpatients per year, to give you some stats! That's about 2,000 patients a day. One of our busiest clinics sees about 250 patients daily, almost 30 patients per hour.

#### Tell us what happened when Covid hit.

We saw a 50% decrease in in-person visits, and we had to ramp up telephone and video visits to connect with patients who needed care. To do that, we worked through the hardware, software, IT infrastructure, training, billing, and staff to support it.

#### So we have entered a new chapter and are reopening services (May 2020).

Yes, it's been a hectic week for everybody in Ambulatory. We plan to reopen at 25% of our average volume on June 1st. Some clinics are already seeing greater than 25% because some people have to go in for in-person visits such as Heme/Onc and OBGYN.

When Covid hit, we consolidated many clinics and moved them to different buildings in different locations, and now we have to move all of them back. So, it's been a busy week.

In addition to moving, we have to prioritize patients—those we can continue to see virtually either by telephone or videos and decide when patients can be brought in while ensuring the space is safe for them and our staff.

#### What will the PPE be for the clinics?

It'll somewhat mirror the inpatient PPE recommendations. If someone is Covid-19 positive, they will have enhanced precautions. Staff will be fit tested and trained to don and doff PPE. In addition, since there are so many different ambulatory clinics that do a lot of procedures, and some are aerosolizing procedures, patients will be tested before coming in for their procedure.

#### Other things to think about for reopening?

Cleaning and disinfection—we will be sending out a new policy shortly. The other big concern is social and physical distancing. We see so many patients. The screening will be in different places, and signage will be in the waiting rooms, elevators, and lobbies. We have a lot of plans, more to come. I have a great leadership team, and it's nice to collaborate with everybody.

#### Our big thing is we want to welcome Ambulatory back...

It's exciting to come back. Some people are nervous about it, and others cannot wait. And so, for those who are worried, we are trying to provide the tools that will make them feel safe, and for those who can't wait, the time is here, and we're ready.

## EMERGENCY MANAGEMENT SPOTLIGHT: MAUREEN MCMAHON



Maureen McMahon, MS, BSN, RN, is the Director of Emergency Management at Boston Medical Center, where she is responsible for all aspects of the institutional emergency management program. She has over 40 years of nursing experience and holds certificates in hospital incident command and emergency response.

# There was a good article in the Boston Globe about a local hospital that recently switched to its emergency management structure. I wondered if you could talk a bit about our structure here at BMC.

We manage emergencies in a bit of a different way. They're not under the standard operating profile where it's an organizational structure designed to ensure that somebody is paying attention to all the various elements of an emergency that need oversight.

For example, we activate our incident command when moving the hospital from East Newton to BMC. We activate when we have Joint Commission or CMS. We had that large flood in the Yawkey building, and that was 12 days of constant activity, which was a fantastic example of how well the structure worked for us. It's been about focusing our attention, focusing all our energy on a single purpose with objectives and goals based on the priority of the day.

We started planning for this pandemic when we heard about Wuhan, China. What are some of the things that we need to look at? What will our priorities be? We communicated more with the incident command team and quickly looked at the critical elements of what we needed to do when we started to see cases in Massachusetts.

#### Tell us about the command structure.

We were fortunate that we've got Nancy, Ravin, Joe, and all these other senior leaders included in our incident command structure. They are incident commanders who are trained and have functioned under those rules to make more of a smooth transition to focus all our energy on ensuring that we can safely care for patients.

#### What groupings did you focus on in the incident command?

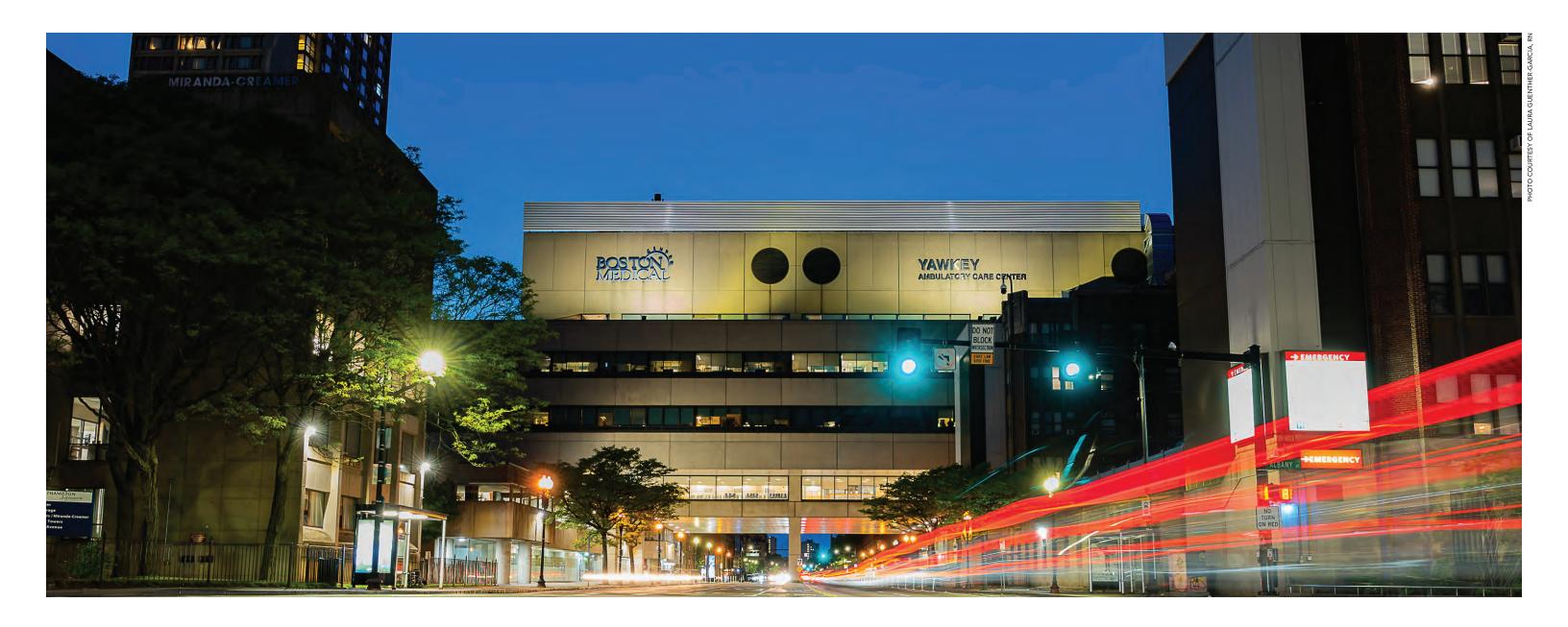
It comes down to three things. There's the space. Where do you need to do the work that you need to do? We put tents up, had an ILI clinic in the lobby, moved the ICU, and expanded it to the step-down floors. We moved adults into Pedi areas. We took other areas and used them as inpatient space. So space is always one of the pieces.

The second is the staff. They are the most important thing that we have. We had teams of people whose sole focus was on the safety of the staff. We had others dealing with the PPE needs, and they were changing every day based on the CDC guidance. So we had to be nimble and quick.

And the third step is the stuff. I think that was our biggest challenge, and that was due to the national supply chain across the board. Not getting supplies created a lot of anxiety, but the team was phenomenal. We never ran out of anything, and we're still working on this.

## So I think one of the things we talked about before the interview was that this is an incredible job for a nurse in disaster management.

Yes, I think there's a benefit to being a nurse in this role. The process is very similar, but clinical expertise and insight are necessary to make these decisions.



"I wanted to express my incredible gratitude for the work that you've done representing us in a way that each of us can be so proud of as leaders. It's just phenomenal to watch how you have been at the forefront, just doing everything that's required for our patients. The little credit that we get in the newspapers and elsewhere is just a tiny piece of what each of us feels for you. So thank you."

—RAVIN DAVIDOFF, MBBCH, SENIOR VP AND CHIEF MEDICAL OFFICER

"Remember to enjoy the little things, remember that the strength of the team is each individual member, but the strength of each member is the team. Remember to think about our blessings every day. Think about what you're able to give to others. Think about how we can support each other and how much your patients and their families appreciate your work and remember how grateful I am that you're all part of BMC."

—NANCY GADEN, DNP, RN, SENIOR VP AND CHIEF NURSING OFFICER

#### 2/4

Boston area hospitals receive patients presenting with the nove coronavirus.

#### 2/5

A new screening tool is developed in Epic in concert with CDC changes.

#### 2/7

The World Health Organization (WHO) reports human-tohuman transmission of the novel coronavirus in China and the Southeast Asia region.

#### 2/21

7W became the designated unit for patients admitted

#### 2/28

increased.

The WHO reports of worldwide activity and spread of Covid-19. Patient screening criteria included travel to and from countries considered high risk. Shared ambulatory and telephone screening

3/4 Travel screening goes live in Quick Registrar and connects to Epic.

#### 3/6

There are now 164 confirmed cases in the U.S. in over 19 states.

The Emergency department moves forward with a single point of entry for patients dedicated COVID Pod Area E.

#### up activities to

mitigate the influx of patients—use of 3/12-3/22 Hazmat screens in 8-10 Covid-19 the waiting areas to separate masked the ICUs. and unmasked patients; drills for 3/13

#### trained staff in the Hazmat blue tent for initial triage point, screening, and further

begin to arrive

on April 6.

3/10

Emergency

department ramps

ambulance bay is utilized for Covid evaluation; and screening and testing. All patients staff use of PAPR, rotated out every presenting to the four hours. ED are screened before triage. Opened 30 RN traveler contracts and they would

Influenza-Like Illness (ILI) Clinic in the Shapiro Lobby opens. Float pool RNs are utilized to capture anyone who entered the Shapiro driveway entrance.

**CNO Nancy** 

shields were

for managing

introduced and staff

3/18

#### patients are in

The Hazmat

Gaden's daily video briefinas are underway to red tent in the address questions among staff regarding concerns PPE inventory, N95 usage, etc. 3/20 Reusable face

Covid-19 rule-out of patients begins on 7W, 7E, and MICU A.

3/23 MICU A is a fully Covid unit.

#### 3/24

Double-masking begins for patients and visitors. Processes were implemented to flac rooms with potentia Covid-19 to prevent inadvertent exposure to another employee walking in.

#### 3/25

Improved changes among ED and Boston EMS trained. The process staff to prevent contamination in ED.

#### mask continuously throughout their

shifts when at BMC. where clinical care is provided, and when delivering home care. Hospital-issued

All employees

hospital-issued

must wear a

masks are distributed to employees at hospital entry points. Temporary

reassignment letters were distributed to nurses and staff notified of those coming to units.

in 30

Days

Covid-19 **Surges:** kev indicators. 214 incentive overtime **Patients** bonus for staff.

#### 4/3

**Pediatrics opens** as a medical

#### 4/2

Dashboard created in ED to monitor and identify surge. Tracking of ICU borders and number of intubations were Started extra shift

SICU is a fully Covid unit.

down opens as ICU Annex with the implementation of crisis staffing with a maximu of 21 patien Placement of 5W Covid patients moved to 3W.

4/7

5W Covid

surgical step

#### 4/8

a process for

identifying

for Covid.

rooms that are

being ruled out

Furlough offered to The Influenzaeligible ED staff. ED Like Illness (ILI) is now considered clinic expands as a Covid unit with to include patients not able to weekend hours. be confined to one side. Staff implements

4/13

IMCU.

4/14

Leadership discusses Crisis

Standards of Care

and concerns with health disparities.

PACU opens as

#### 4/18

Expanded N95 masks to all Covid care areas.

5/4 Medically necessary

5/7

#### non-Covid

5/11 7E and the CCU become non-Covid.

5/28 surgeries begin. Endoscopy procedures at 25%.

Units become non-5/31 Covid or close. 4E becomes

#### 6/15

Moakley resumed all medically necessary surgery

bonus ends.

Overtime incentive

#### In the United States, there are 12 confirmed cases in Arizona California, Illinois Massachusetts Washington, and Wisconsin

#### 2/21

There are now 15 confirmed cases in the U.S. with Texas being added to the list of states impacted.

The patient screening criteria were modified to include hospitalization with lower respiratory illness.

The novel coronavirus (2019-nCoV) name was changed to Covid-19.

#### The Calm **Before** the Surge

#### 3/3

Pedi ramps up telephone triage of all patients with flu-like symptoms and positive travel to the Emergency department

Environmental Services increases the cleaning frequency in waiting room areas.

3/10 Governor Charlie Baker declares a

BMC restricts travel for employees; implements policies

With 328 cases in state of emergency

#### 3/7 Workforce planning begins at the

#### 3/9

and procedures.

The ICUs and ED adopt universal N95s for staff. Surgical masks were used for non-aerosolizing

procedures.

Restrictions and

access to masks

were placed to

save inventory.

### hospital.

#### 3/11 MICU A receives the first COVID-19 patient.

#### 3/12

**Updated Covid-19** Lab Testing Policy no longer requires MA Dept. of Public Health (DPH) pre-approval. One visitor per patient is in effect in the ED

#### · Ratios on ICUs: 70% are 1:1

- Ratios on M/S: many at 1:2 to beain
- Added IND/ Charge on Covid M/S units

#### as rooms became singles for ruleouts

#### 3/15

All elective surgery was suspended per Massachusetts state order.

#### 3/17

Training began for reassigned staff.

#### homeless patients is communicated and resources are provided.

CNO declares N95

be used for every

Governor Charlie

Baker orders all

non-essential

businesses to

cease in-person

operations and

advisory.

issues stav-at-home

whole shift.

3/23

#### staff member in the ED and ICUs Lost bed capacity caring for patients. One mask per shift unless soiled or wet and on for the

3/22

#### 3/26

PICU closes. All patients are to be received at Boston Children's Hospital starting April 1. Planning initiated for mass education of pediatric nurses to care for adult patients.

#### 3/26

MICU B is a fully Covid unit.

#### 3/27

**CEO** and President Kate Walsh

#### 3/29

for inpatients. CCU is a fully Covid unit.

#### Menino PACU

opens up as non-Covid ICU.

**CEO** and President Kate Walsh declares universal masking

#### 3/30

Training begins for all reassigned staff

#### 3/31

Clinical discussions underway for Crisis Standards of Care.

4/1

Requested additional 20 agency staff to supplement staffing; added 70 traveler

potential surge.

contracts.

became Covid-only

Cross-trained staff in place and agency nurses onboarded to preserve staff, prevent burnout furlouahed and prepare for a

Opened new temporary units to increase critica care and medical surgical bed capacity as BMC's core critical care and medical/

#### 4/5

159 staff were reassigned and started in new roles/ units and other staff

Gerson N95 mask was introduced requiring re-fit testing. All 63 Covid ICU

beds were filled and 10 PACU ICU Covid beds were full. Began transfer of 8 ICU patients to other academic dical centers

#### 4/9

4/10

Former East

**Newton building** 

to all floors and

for use in non-

Implemented process for N95

re-use. One N95 mask per shift to be placed in Tupperware.

Covid areas.

of N95 masks for sanitizing and re-use went live

The Observation Unit opens as a non-Covid surgical step-down unit.

opens to assist with decanting the hospital and support homele population in Post-Surge: ight of pandemic Rebound Expanded face **Begins** shields and gloves

4/21

4/27

tested.

presented to the

ED are now Covid

#### 5/13 PACU ICU closes.

Hospital patient volume increased The surgical stepdown unit and 6W become non-Covid Preparation is All admissions underway for the

5/20 Menino PACU re-opens

reopening of ORs

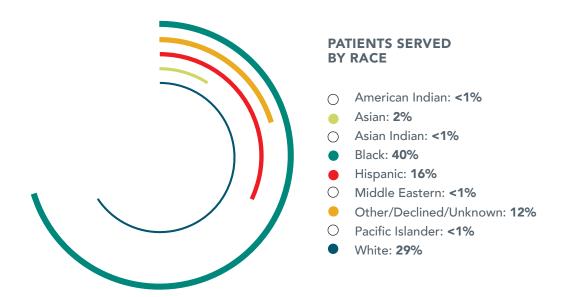
and ambulatory

spaces.

5/24

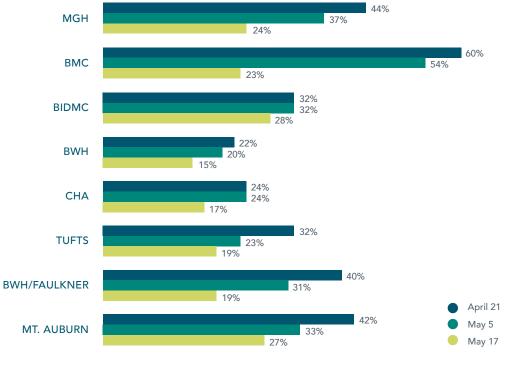
The Integrated Procedural Platform (IPP) starts to expand capacity through increased hours and weekends

- Monitoring volume continued communication and updates to staff.
- Focus turns to recovery and rebounding.
- A new reality for staff, continue to remain vigilant while still in the pandemic.
- Hospital Covid census decreases.
- Summer brings back traumas. Agency nurses
- depart. Massachusetts reopens cautiously.
- · Keeping an eye on what the second wave may look like



**COVID CASES AS A PERCENTAGE OF NORMAL BEDS** 

BMC has seen a disproportionate share of COVID cases among Boston and Cambridge hospitals, particularly early in the crisis and throughout the surge.



Source: Mass.Gov. Staffed beds from AHD. www.ahd.com/states/hospital\_MA.html

2,328

TOTAL COVID ADMISSIONS

2 MILLION

97,361 TOTAL NUMBER OF COVID TESTS COMPLETED 450K YELLOW GOWNS

30 REUSABLE GOWNS

7.4 DAYS

1,779

REGISTERED NURSES



100+

**RN TRAVELERS** 

150+

REASSIGNED RN STAFF



400+

EMPLOYEES TRAINED IN 3 WEEKS

45

**CNAS AND LPNS** 

BMC nurses have cared for 2,328

disease since the beginning of March 2020. The Covid-19 pandemic challenged staff in ways never thought of before. Patients received

patients with Covid

the best compassion, teamwork, expertise,

and talent from

**Boston's most** 

We salute and thank you.

vulnerable patients.

nurses, clinicians, and all of the people who are part of the BMC community and who have dedicated their lives to serving

20%

RNS WITH SPECIALTY CERTIFICATIONS

RNS WITH BSN,

MSN, OR PHD

240

ADVANCED PRACTICE NURSES



CRITICAL CARE AND MEDICAL/SURGICAL BED CAPACITY INCREASED



NURSES VOLUNTEERED AT EAST NEWTON PAVILION COVID RECUPERATIVE UNIT



OVER 3,500 STAFF TUNED IN WEEKLY TO THE CNO DAILY VIDEO BRIEFINGS DURING THE SURGE



EXPANDED USE OF TELESIT EQUIPMENT IN ICU SPACES



50 word graphic by TRACI O'CONNOR, RN

Through the masks
and the sweat and the tears

Nurses took the time to calm the fears
Of patients young and old
Whose stories have yet to be told
A disease that we were forced to weather
Has somehow brought out the best in BMC
and brought us all together.

**ROBERTA GATELY, BSN, RN** 

#### **BMC IN THE NEWS**





INSIDE BOSTON MEDICAL CENTER: THE HEART OF THE CORONAVIRUS STORM

By Felice J. Freyer, The Boston Globe April 18, 2020



FRONT-LINE
STAFF AT BOSTON
MEDICAL CENTER
PREPARED FOR
CORONAVIRUS

NBC10 Boston April 21, 2020



TWO RESIDENTS
INSIDE AN ICU'S
PANDEMIC
CREW: COVID
BRAIN, THE
RELENTLESS
SORROW, AND
KINDNESS IN
CALAMITY

THE VIEW FROM

By Iniya Rajendran and Stephanie Van Decker, STAT News April 22, 2020



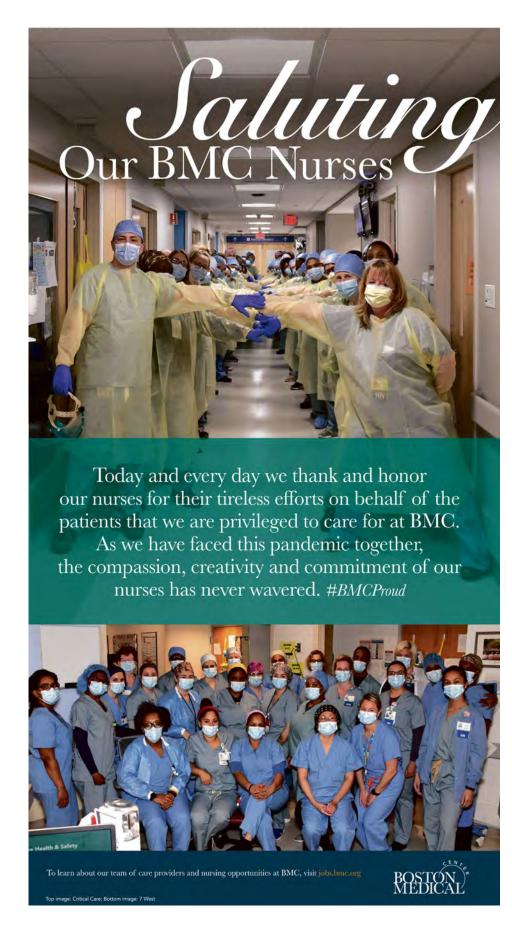
THESE NURSES
HOLD THEIR
PATIENT'S HANDS
AND ERECT A
CRITICAL BRIDGE
TO LOVED
ONES NOW
HEARTBREAKINGLY
OUT OF REACH

By Thomas Farragher, The Boston Globe April 22, 2020



'SHE IS GOING TO MAKE IT, DAMN IT': ONE DOCTOR'S QUEST TO SAVE HER PATIENT FROM COVID-19

By Jennifer Levitz, The Wall Street Journal June 26, 2020



BMC took a full page ad for the Boston Globe Salute to Nurses. Pictured in the ad are the teams from 7West and MICU units.

BMC nurses were also honored and recognized by patients on Boston.com Salute to Nurses:

Justin Alves Katlyn Campbell Ann Carey Ryann Carr Patty Donovan Melissa Dunn Dena Dwver Timothy Failla Jennifer Francis Austin Galli John Graham Jeanine Midy Claire Miller Lisa Mitchell Ellen Munger Agnes Naiwanga Andrea Nicholson Megan O'Brien Jocelyn Olivier Darnelle Paul Teresa Pugliese Jocelyn Ramirez Stephanie Robinson

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